THE PREHISTORY OF NOTUKEAU LAKE, CENTRAL SASKATCHEWAN

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THE PREHISTORY OF MONTREAL LAKE, CENTRAL SASKATCHEWAN

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ABSTRACT

The purpose of this thesis is to present an outline of the culture history of Montreal Lake in central Saskatchewan. This reconstruction is based on material culture remains recovered by a survey and excavation program carried out in the region during the summer field seasons of 1972 and 1973.

The culture history of the Montreal Lake region consisted of a number of occupations which occurred sporadically and which varied in distribution and duration. Most of the occupational prehistory was represented by northern Plains related complexes and traditions. The earliest identified occupations included Oxbow, McKean, Duncan and Hanna complexes of the early Meso-Indian period, possibly dating to 2000 B.C. in this region. Succeeding complexes, including Pelican Lake and Besant materials, were also Plains affiliated although some unidentified cultural materials could have been derived from other areas. Around A.D. 1500, occupations indicative of a boreal forest cultural tradition, the Clearwater Lake complex, appeared and persisted until the contact period.

The sites located in the Montreal Lake region constituted a settlement pattern which clustered around the entrance to the Montreal River. The sites in this locality were slightly larger than sites located around the lake, and also evidenced a greater density and temporal range of cultural materials. The analysis of faunal remains from one site in this locality permitted inferences to be drawn concerning subsistence resources and seasonality of occupation.

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PART I INTRODUCTION AND CULTURE HISTORY

1. INTRODUCTION AND BACKGROUND

1.1 Theoretical Background

The primary archaeological objective in an area which has not been previously investigated is usually the reconstruction of the sequence of human occupations. This is particularly true if neighbouring regions are also poorly known archaeologically, as was represented by the situation of Montreal Lake and the boreal forest area of central Saskatchewan.

A cultural sequence may be reconstructed by an analysis of the differences and similarities in material culture through time. The recovery and interpretation of material culture (artifacts) was supposed to result not only in the reconstruction of past lifeways, but also of a time-space dimension (Flannery 1972, Martin 1972).

The traditional archaeological technique to recover material culture was the excavation of deep and narrow trenches on a site which was considered to manifest a long occupational sequence (Deetz 1967). The artifacts recovered from these excavations were segregated according to arbitrary excavation levels or natural stratigraphic levels. Minimal attention was given to recording the spatial provenience of artifacts, or the association between artifacts at the same level or temporal period, as these attributes were considered non-essential to the construction of a developmental sequence.

The artifact collections from the different levels were then compared level to level and site to site. This comparative process was based on the 'type' concept, which was the analysis of form. Artifact types represented the results of behavioral patterns directed by normative values (Deetz 1967, Spaulding 1971, Flannery 1972). The results of typological comparison indicated not only the presence or absence of genealogical affinity between 2 cultural units, but also the degree of affinity as indicated by the relative proportion of shared traits (Binford 1968: 8). Where the configuration of compared attributes and types exhibited only slight changes over long periods of time, a cultural 'tradition' was said to be manifested (Willey and Phillips 1958: 37, Deetz 1967: 61). When marked typological similarity occurred over a broad area and during a short period of time, the configuration of shared traits were considered as representative of an archaeological 'horizon' (Willey and Phillips 1958: 33, Deetz 1967: 59). These 2 concepts have thus functioned as the archaeologist's most important integrative tools for reconstructing cultural and historical relationships (Willey and Phillips 1958: 31).

The traditional archaeological aim of cultural-historical reconstruction has recently been criticized by those who claim that there is a difference between describing and explaining culture change. These critics are often referred to as 'new', 'processual', or 'anthropologically-oriented' archaeologists (Binford and Binford 1968; Watson, LeBlanc, and Redman 1971; Binford 1972; Flannery 1972; Leone 1972; Martin 1972).

In turn, the 'new' archaeologists have been criticized for not acknowledging that the 'new archaeology' had its conceptual basis in Taylor's conjunctive approach as expressed in his 1948 work A Study of Archaeology (Taylor 1972: 30). A more important criticism has been that extensive description of archaeological data is a necessary prerequisite to the application of a dynamic, explanatory model (Taylor 1972: 33). In consideration of the latter criticism, and in regard to the poorly known archaeological situation of the southern boreal forest, the primary aim of initial archaeological reporting from this area should be a reconstruction of the culture history, and an adequate description of the material culture remains. The role of the Montreal Lake archaeology project was considered to be a relevant step in the process of achieving these aims. The extent to which results may be incomplete could be considered a reflection of a limited research design and insufficient data.

1.2 Archaeological Background

Only one published reference to Montreal Lake was known prior to the commencement of this project. This reference was a note on the geographical range of pottery pertaining to the late prehistoric and historic components of the Selkirk focus (MacNeish 1958:166, 167). The comment was of some importance regarding the areal relationships of pottery from the Montreal Lake region.

A survey of nearby Prince Albert National Park by the author was carried out in 1971 (Forsman 1972). Although the survey emphasized site location rather than excavation, the findings were

not significantly different from those at Montreal Lake. Additional research in the park was done in 1973 by Eugene Gryba, with similar results (Gryba personal communication).

An archaeological survey of the Sturgeon-Weir drainage area indicated a substantial time depth for central Saskatchewan culture history, and eventual publication of the data could hold considerable comparative value (Brown 1962: 120).

An archaeological project carried out in the Methy Lake region during 1971-1972 focused on historic fur trade sites, but contact period and prehistoric cultural remains were also recovered (D. Steer personal communication).

The Black Lake archaeology project in northern Saskatchewan, 1972-1974, resulted in an extensive culture history for that area, but with only a few similarities to the Montreal Lake region (Minni 1975).

Archaeological research on the Churchill River has recently been carried out, 1973-1974, in response to a dam proposal for the area and has located numerous prehistoric and historic sites (H. Epp personal communication).

Archaeological investigations of the boreal forest in northern Manitoba have been of considerable significance because the published results clearly indicated the extensive areal relationships of late prehistoric cultural remains found at Montreal Lake (Wright 1971; Hlady 1970, 1971; Mayer-Oakes 1970; M. Hanna personal communication).

In regard to giving a more complete picture of the spread of late prehistoric period pottery in the boreal forest, brief reports

on remains recovered from other parts of the Churchill basin including Lac la Ronge, Churchill Lake and Reindeer Lake have been noteworthy (Wright personal communication, Downes 1938).

Outside of the boreal forest, archaeological research in southern Saskatchewan has been of considerable importance in interpreting the affiliations of northern Plains related materials from Montreal Lake (Wettlaufer 1955, Nero and McCorquodale 1958, Wettlaufer and Mayer-Oakes 1960, Meyer and Dyck 1968, Dyck 1970).

Useful, but less immediate information was represented by archaeological research carried out in the neighbouring provinces of Alberta and Manitoba (Wormington and Forbis 1965, MacNeish 1958, Joyes 1970, Reeves 1970, Syms 1970, Gruhn 1971).

1.3 Description of the Study Area.

The Montreal Lake study area is situated near the center of the province of Saskatchewan (Fig. 1). The lake is in the Churchill drainage basin and is located midway between the Churchill River and the North Saskatchewan River.

The region around Montreal Lake is characterized by generally low relief. Most of the lakeshore is bordered by areas of bog and muskeg. A storm ridge often forms the beach front between the lake and the muskeg areas. The topography of this region is formed by glacial deposits overlying bedrock geological formations of the Cretaceous age (Richards and Fung 1969: 47).

The soils of the region include those which are sandy, loamy, and organic in texture, and are characteristic of the Podzolic and Organic soils belt of Saskatchewan (Moss 1965, Moss and Clayton 1969).

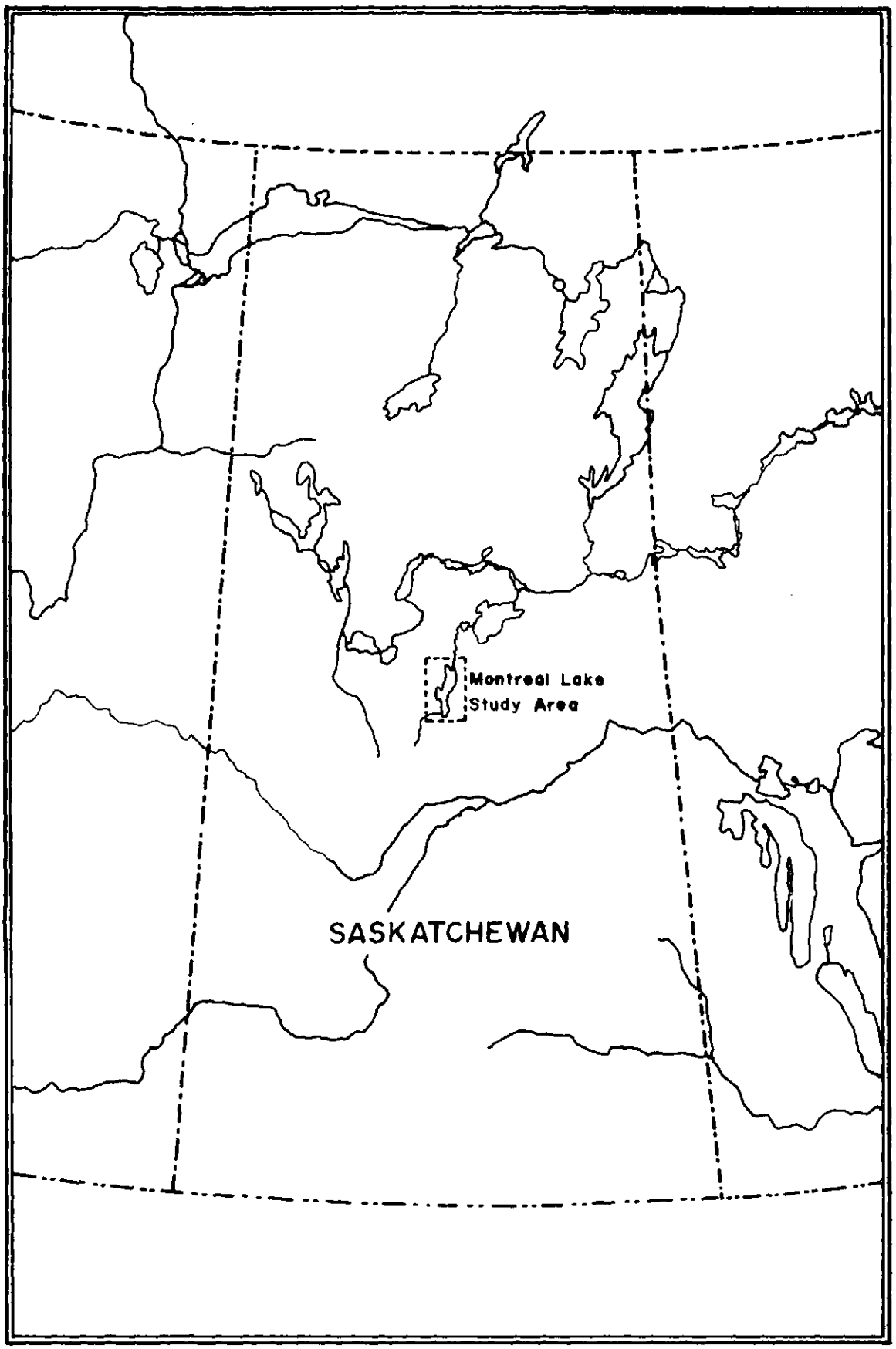


Figure 1. Map of Saskatchewan

Montreal Lake is one of the larger intermediate sized lakes in the area. The lake is 52 km long, 11 km wide, and lies at an altitude of 488.5 m. Montreal River connects the lake to the Churchill via a system of lakes and rivers. This river is larger than any of the rivers and streams draining into the lake. The major sources of water for the lake are the Thunder Hills to the west and the Waskesiu Hills to the south-west. The lake is shallow and when windy weather prevails the bottom is easily churned up. Weed and reed beds are plentiful in many areas of the lake.

The outlet of Montreal River is artificially controlled by a dam which is a simple fixed weir type of structure. This dam is located 16.5 km downstream (north) of Molanosa. The structure was built to stabilize lake levels for commercial fishing and recreational purposes. This dam has "...probably raised the average lake level by a small amount without any significent increase in the maximum lake level" (J.R. Hart personal communication: 1972). This opinion was substantiated by the residents of Molanosa. The building of this structure, nevertheless, has modified the yearly cycle of high water levels in the spring, and lower water levels in the late summer and early fall. Although the dam did not raise the lake levels, it may have had an impact on archaeological studies by preventing the lake level from receding. For example, potentially habitable site locations may have existed below the present water level. These locations may have been occupied during the prehistoric past in periods of seasonal dryness, or during periods of slightly drier climatic conditions. The result of maintaining the lake at

a high and relatively stable level represents an artifical situation which precluded archaeological survey of the region during a low water cycle.

The climatic zone surrounding the Montreal Lake region is commonly referred to as Sub-arctic, and is considered to correspond to the boreal forest zone (Meteorological Branch 1962: 6, 7). This climatic type is characterized by short, cool summers, with less than 4 months over 10°C, and a frost free period of less than 80 days (Chakravarti 1969: 60). This climatic situation may be the result of larger, more significant phenomena such as the shifting frontal position of the arctic air mass (Bryson and Wendland 1967: 275, 276).

Montreal Lake is situated within the boreal forest, slightly north of the southern boundary for this area. The boreal forest is primarily coniferous although there is also a general admixture of some deciduous species (Hosie 1969, Mott 1969). The most common species seen to occur in the region included pine, tamarack, spruce, poplar, birch and willow.

The fauna of the region is somewhat mixed because the range of a few species such as deer, bison, and wapiti also includes the grasslands to the south. Other large mammals found in the region include the moose and woodland caribou which are more characteristic of the boreal forest habitat (Maher 1969, Cameron 1972, Banfield 1974).

Although birds of many species occur in the Montreal Lake region many of these are migratory and do not spend their winters in the region. Pelicans and gulls nest on a couple of small, low islands in

the lake. Other waterfowl, including loons and a variety of species of ducks, make their breeding grounds in the marshes around the lake. Eagles nest in the region and other large birds include grouse and owls (Godfrey 1966, Gollop 1969).

Several species of fish occur in Montreal Lake. Whitefish are found in large numbers and the lake is commercially fished for this species. Also occurring are northern pike, walleye, and sucker. Lake herring and burbot possibly also occur (Atton 1969).

The palaeo-environment of Montreal Lake cannot be reconstructed accurately as Holocene climatic and palynological data have not been recovered from the region. Any attempt to reconstruct the post-glacial environmental characteristics of this region must be accomplished by extrapolation from other documented regions. These regions are few in number and lie at considerable distance from Montreal Lake. Consequently, any palaeo-environmental reconstruction for the study area must be considered tentative.

Much of the research concerning recent deglaciation has taken place in Manitoba in regard to Glacial Lake Agassiz. Using data from this area, Montreal Lake may have been exposed by deglaciation ca. 10,000 B.C. The early post-glacial vegetation in the region may have been grassland in character until 1500 B.C., when a cold deciduous forest would have become established. This, in turn, would have been replaced by full boreal forest conditions ca. 500 B.C., which would have prevailed to the present time (Bryson and Wendland 1967, Elson 1967, Ritchie 1967).

2. METHODOLOGY

2.1 Definition of the Study Area

The Montreal Lake archaeology project was undertaken as a study to determine the prehistory of a localized geographical region within the southern boreal forest. The primary step towards realization of this goal was the detection of prehistoric site locations. There were 3 basic terms, site, locality and region, which were used to indicate different geographical concepts, and which provided an operative framework for the survey process. These terms may be defined as follows:

Site: A site was considered to be a locus of human activity characterized by the deposition of material cultural remains. In practice, this term pertained to a relatively small area of geographical space and was indicated by the presence of a few or more pieces of shatter, flakes, or artifacts.

Locality: A locality was considered to be a slightly larger area of geographical space and could contain several sites. These sites were close together and sufficiently contemporaneous that they might be considered to represent a community or local group (Willey and Phillips 1958: 18). The term may exhibit some flexibility but in the case of Montreal Lake it was used only in reference to the Montreal River locality, defined as the area encompassing the cluster of sites found in the vicinity of the entrance to the Montreal River.

Region: This term represented a larger geographical space than locality, and was considered to equate with the full extent of the study area.

A strip of land forming the borders of Montreal Lake, its tributaries, and Montreal River as far downstream as the dam constituted the main study area (Figs. 2,3). The survey party was not given permission by the Montreal Lake Band of I.R. 106 to survey the land within the reservation boundaries. A small inland region in the vicinity of Molanosa was surveyed because of its general accessability.

2.2 Investigative Methodology

The Montreal Lake archaeology project covered a time span of 2 summer field seasons for the years 1972 and 1973. The author, as senior investigator and supervisor of the project, participated as one of the fieldworkers and is responsible for the subsequent laboratory analysis and interpretation.

In 1972 the survey of Montreal Lake was undertaken by 2 field workers between June 12 and August 28. Surface traverses along the lakeshore were difficult due to the many bogs and, consequently, surveying was carried out from the water by canoe. Base camps were established at the south end of Montreal Lake and at the north end near Molanosa. Secondary camps were made as the survey progressed around the lake.

The survey procedure was to pass along the lakeshore by canoe, stopping to go ashore on every area of potentially habitable ground that extended to the shore or that was not so distant as to make access by foot difficult. Beaches and other eroding or disturbed areas were always surveyed to determine if cultural material was exposed on the surface. Usually all early historic and prehistoric

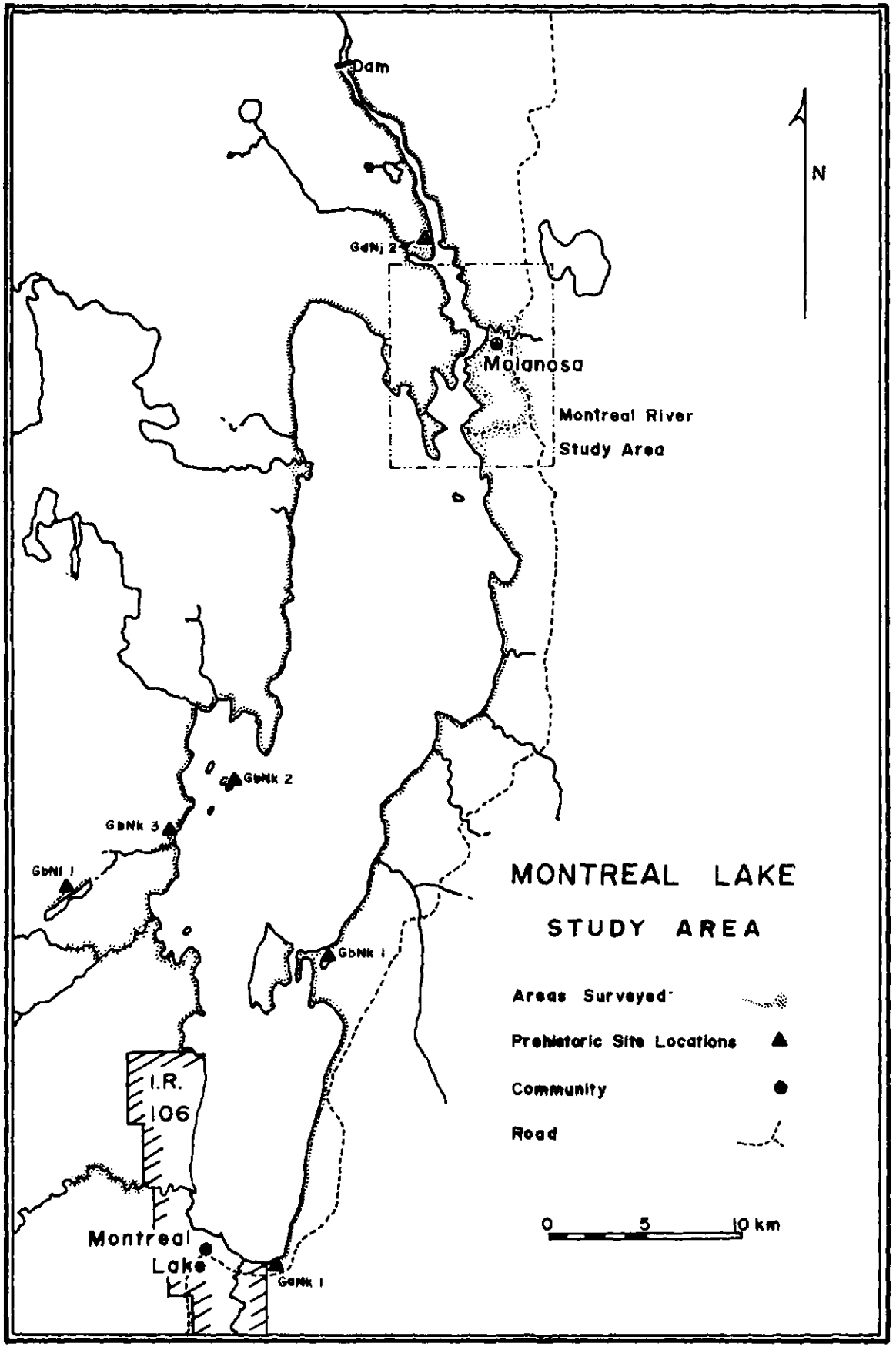


Figure 2. Map of Montreal Lake Study Area

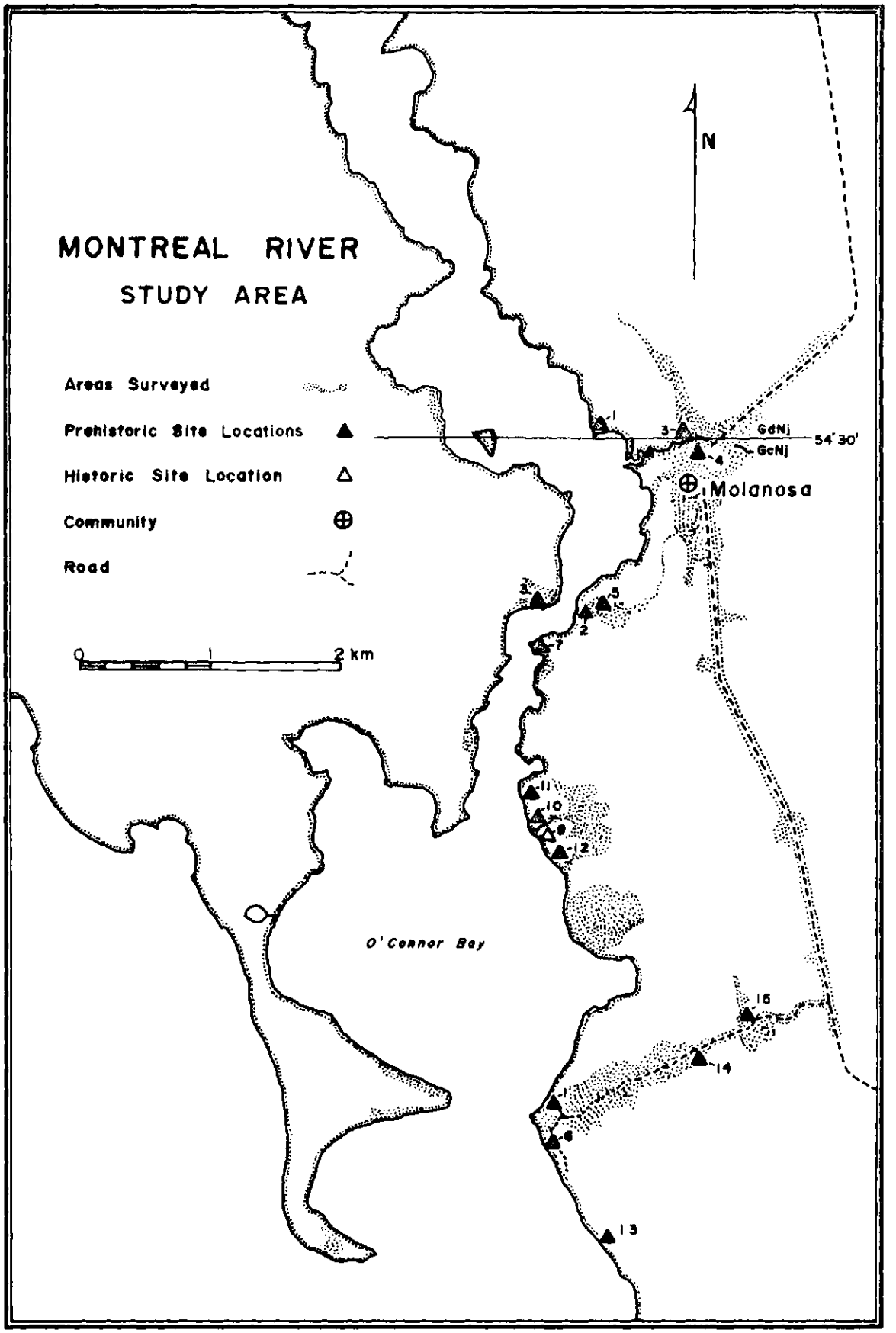


Figure 3. Map of Montreal River Study Area

materials so located were collected. Areas of high ground unexposed by erosion or disturbance were subjected to test excavations.

Test excavations consisted of 1 m square units which were frequently dug by shovel, the trowel being used to go through the backdirt. When cultural material was encountered, the shovel was abandoned and the trowel used exclusively in excavation. Cultural material collected was catalogued according to depth and test unit. Pits were profiled and sketch maps of the sites drawn. Other data collected included notes on vegetation, topography, disturbance and contemporary structures.

The cultural material recovered was evaluated in consideration with the apparent degree of site disturbance, whether caused by natural forces or human activity. On the basis of these results, 2 sites (GcNj 2, 11) were chosen to be excavated in the 1973 field season. During the 1973 field season, however, the high water levels of that year inundated GcNj 11 and some excavation was alternatively carried out at GcNj 7.

In 1975 there were 3 workers in the field from May 25 to August 7, and 2 workers from September 6 to 27. Only a small amount of additional survey work was done during this field season. Most of this time period was spent in the excavation of GcNj 2 between May 27 and July 26. The remaining time was spent at GcNj 7. Both sites were mapped topographically using a plane table and alidade.

The provenience of artifacts, detritus, floral and faunal remains was recorded to the nearest centimeter. Small shatter fragments, below 0.5 cm^2, and small unidentifiable bone fragments

were not usually collected or recorded. Features uncovered were recorded and photographed. In the case of hearths, soil samples were taken, along with ash and carbon samples when present. Profiles of the excavation units were drawn and photographed, both in black and white and slide film. All excavation units were backfilled.

3. CULTURE HISTORY

The reconstruction of the culture history for the Montreal Lake region was dependent mainly on the typological comparison of diagnostic projectile point types. A close similarity in form of a projectile point specimen from Montreal Lake and that from another site, region, or area was considered to be indicative of some type of affiliation or relationship, although the nature of this relationship was not precisely understood. An effective reconstruction of the cultural sequence required some cross-dating of data from other areas where there had occurred relative and/or chronological dating of comparable projectile point types or other diagnostic data.

3.1 Northern Plains Related Materials

Early Meso-Indian Complexes:

The earliest evidences of occupation at Montreal Lake pertain to northern Plains affiliated projectile point types. This is based on the relative dating of projectile points from GcNj 2 which indicated that Oxbow, McKean, Duncan and Hanna projectile point types were stratigraphically associated with the earliest materials recovered from the site. Similar projectile point types occurred at GcNj 4, 11, and possibly 7. Although these 4 projectile point types could be regarded as representing variations of a single norm (Syms 1970:127), they were frequently noted as occurring separately in discrete occupational levels or components. The radiocarbon dates of several such components on the northern Plains indicated a

chronological sequence for these types, with the Oxbow being the earliest and followed by McKean, Duncan, and Hanna. This period was dated ca. 3000 to 1500 B.C., but may have occurred slightly later at Montreal Lake. This assessment was based on radiocarbon dated components at other sites which are briefly summarized in Table 1.

Although the considerable time range which these point types represented was incompatible with their apparent contemporaneity at GcNj 2, such a situation might be expected due to the peripheral nature of the Montreal Lake region. All of the point types were considered to be part of a single cultural tradition, termed TUNAXA, which probably utilized a subsistence strategy based on the communal hunting of bison (Reeves 1970: 161). The projectile points representing this period were recovered only from a few sites in the Montreal River locality and were regarded as indicative of localized activity within the region as a whole.

Other artifacts associated with this period of occupation were recovered only from GcNj 2, where there was some stratigraphic and vertical separation from later components. None of these artifacts were considered diagnostic in the sense that projectile points were. More generalized differences, however, appeared present in the artifact classes which might evidence some changes through time. The characteristics of the associated lithic inventory were based on a small population but can be summarized as:

- a general lack of large quartz bifaces,
- a moderate presence of small bifaces,
- the presence of hafted gravers, possibly reworked on projectile points,

- few biface edge tools,
- a high frequency of biface fragments,
- the presence of an atlatl weight,
- the presence of denticulate, incurvate, and pointed unifaces,
- the presence of very large size scrapers, some well formed,
- and few small size scrapers.

Although these characteristics are stated in generalized terms, this assessment had some relative value in comparison to the much later Clearwater Lake complex.

As these early Meso-Indian materials were affiliated with a Plains cultural tradition, and given their greater relative frequency of occurrence in the grasslands to the south, their presence in the Montreal Lake region may have been due to a northward movement.

Pelican Lake Complex:

The Pelican Lake complex was represented by a single, incomplete, Pelican Lake type projectile point which was recovered from GcNj 7. The presence of this point type in the Montreal Lake region was considered to occur between 1000 B.C. and A.D. 200. This estimate was based on radiocarbon dated components summarized in Table 1.

The Pelican Lake complex was Plains adapted with subsistence based on the communal hunting of bison (Reeves 1970: 161). This complex was a manifestation of the TUNAXA cultural tradition and successor to the Hanna complex (Reeves 1970: 167). Projectile Points of the Pelican Lake type have been found at Black Lake (Minni 1975: 54) and Lake Athabasca (Wright 1974 personal communication) in northern Saskatchewan, and at Prince Albert National Park (Forsman 1972: 14). Its presence in the boreal forest, however, was sporadic and was considered representative of limited excursions or forays

into the area from the northern Plains. As the occurrence of the Pelican Lake complex at Montreal Lake was limited to a single point, it was considered indicative of the terminal extension of the complex into this area of the province.

Table 1. Summary of C 14 Dates of Related Northern Plains Complexes

COMPLEX	DATE	SITE	REFERENCE
Besant	A.D.680±150	Muhlbach	Gruhn 1971: 45
	A.D.377±325	Long Creek	Wettlaufer and Mayer-Oakes 1960: 41
	A.D.370±325	Mortlach	Wettlaufer 1955: 46
Pelican Lake	293±100B.C.	Long Creek	Wettlaufer and Mayer-Oakes 1960: 47
	480±90 B.C.	Walter Felt	Reeves 1970: 158
	680±100B.C.	Signal Butte	Joyes 1970: 212
McKean, Duncan, Hanna	1000 ± 200 B.C.	Signal Butte	Forbis 1965:35
	1327 ± 600 B.C.	McKean	
	1490 ± 120 B.C.	Signal Butte	
	2220 ± 250 B.C.	Signal Butte	
	2600 ± 220 B.C.	Signal Butte	
Hanna	1413 ± 115 B.C.	Long Creek	Wettlaufer and Mayer-Oakes 1960: 50
Duncan	1445 ± 115 B.C.	Mortlach	Wettlaufer 1955: 58
Oxbow	1410 ± 120 B.C.	Harder	Dyck 1970: 25
	2150 ± 90 B.C.	Moon Lake	Dyck 1970: 16
	2663 ± 150 B.C.	Long Creek	Wettlaufer and Mayer-Oakes 1960: 52
	2693 ± 150 B.C.	Long Creek	Wettlaufer and Mayer-Oakes 1960: 59
	3250 ± 130 B.C.	Oxbow	Forbis 1965: 35

Besant Complex:

One complete Besant type projectile point and fragments of possibly 3 others were recovered from 3 sites (GcNj 2, 4, 11) in the Montreal Lake region. The presence of the Besant complex in this region was estimated to occur between A.D. 300 and A.D. 700. This estimate was based on radiocarbon dated components summarized in Table 1.

From the undisturbed portion of GcNj 2 which yielded a complete Besant point, 5 small scrapers were also recovered in association. The diagnostic characteristics of these scrapers were their small size, high frequency of multiple working edges, and the presence of alternate working edges. A hafted graver was recovered from another part of the site and possibly represented a re-worked Besant point. Other artifacts attributed to the Besant complex included a large hafted biface, and a hafted end scraper, which may also represent a re-worked point.

The Besant complex has been considered part of the NAPIKWAN cultural tradition that was "...resident in the Northeastern Periphery along the Woodland Edge since Late Archaic or Early Woodland times ca. 1000 B.C. - 500 B.C." (Reeves 1970: 171). From this area the Besant complex expanded onto the northern Plains and physically or culturally displaced the Pelican Lake complex (Reeves 1970: 171). The presence of the Besant complex at Montreal Lake may have represented a northward movement from the Plains into this boreal forest region.

Although the Besant materials recovered did not appear to indicate extensive use of the Montreal Lake region, they suggested

greater activity in the area than was present at any time since the end of the Hanna phase.

3.2 Boreal Forest Related Materials

Clearwater Lake Complex:

The late prehistoric period and contact period in the Montreal Lake region was represented by Clearwater Lake complex materials. The Clearwater Lake Punctate type of pottery was the main diagnostic feature of the complex and occurred both in components which pre-dated the contact period, and in components which included associated early historic artifacts.

Pottery rather than projectile points was a more diagnostic feature of cultural affiliation. Pottery was recovered from 8 sites in the Montreal Lake region and all was considered representative of the Clearwater Lake Punctate Type of Winnipeg Fabric-Impressed Ware (Hlady 1971: 17). Although the definition for this type concept is somewhat limited, variations appeared to exist throughout Saskatchewan and Manitoba (Downes 1938; Brown 1962; Hlady 1970,1971; Wright 1971, 1974 personal communication; Minni 1975; Mayer-Oakes 1970). Wright has recently used the direct historical approach to suggest that the Cree of South Indian Lake produced similar pottery (Wright 1971: 20-21). The affiliations of this pottery type appeared to extend at least to south-eastern Manitoba where it was probably produced by the Cree (MacNeish 1958).

Radiocarbon dated components at Southern Indian Lake suggested a fairly continuous Cree occupation for that region from approximately A.D. 900 to the contact period, ca. A.D. 1700 (Wright 1971:3). Estimates of the Cree occupation and Clearwater Lake Phase for the western

regions of Manitoba and eastern Saskatchewan cover a time span of approximately A.D. 1500 to A.D. 1800 (Hlady 1971: 61). On this basis, the occurrence of the Clearwater Lake complex in the Montreal Lake region could be due to a westward movement of the Woodland Cree, and could also fit into the time period of A.D. 1500 to A.D. 1800.

The presence of the Clearwater Lake complex at 8 sites in the Montreal Lake region suggested that the late prehistoric period was the most active period of occupation in the region's prehistory. The lithic cultural assemblage was not as diagnostic as the pottery but could be characterized as follows:

- there is a high proportion of large bifaces,
- few biface fragments,
- few small bifaces,
- few biface edge tools,
- few large size scrapers,
- there is a high proportion of small size scrapers,
- small discoidal scrapers are present,
- drills are present,
- and pipes are present.

At GcNj 7 a pipe fragment was recovered that was similar to one recovered in association with a Clearwater Lake complex at Southern Indian Lake (Hanna 1974 personal communication). The presence of identations around the rim of the bowl on the specimen from Montreal Lake were reminiscent of punctates on the pottery.

Although archaeological data is somewhat limited, sites of this complex are generally small in size, suggesting occupation by nomadic Cree families. All known sites are located on waterways which may indicate an emphasis on fishing as the main subsistence base, followed by hunting and gathering (Hlady 1971, Wright 1971).

This assessment tends to be supported by data from the Montreal Lake region and available ethnographic data (Buckley, Kew and Hawley 1963; Fisher 1973). In addition to fish, more specific food resources included woodland caribou, moose, bear, hare, ducks, geese, grouse, and ptarmigan (Jenness 1963: 285).

The Clearwater Lake complex was part of a cultural tradition that was adapted to the boreal forest, and was a product of the Woodland Cree. Its occurrence in the Montreal Lake region was considered to be due to the westward expansion of these people from Manitoba and probably took place under climatic conditions essentially like those of the present.

The range of artifacts represented in the cultural assemblage indicated that a diversity of activities were carried out. At GcNj 2 some of these activities were indicated by the clustering of artifacts. A sunken hearth appeared to be the focal point of activity as indicated by the high associational frequency of some artifact classes. Pottery, bone tools, and lithic artifacts were manufactured at the site. Bipolar stone working technology was the dominant method of stone working employed for core reduction, and possibly also blank formation. The faunal remains recovered from GcNj 2, in association with this complex, indicated seasonal occupation of the site and related resource use. The exploitation of the aquatic and marshland habitats during the spring, summer and fall seasons explained the representation of moose, beaver, fish, and migratory avifauna. The other Clearwater Lake components similarly located on the Montreal River probably also reflected

this seasonal adaptation.

3.3 Summary Statement:

Although Montreal Lake may have been exposed by deglaciation approximately 10,000 B.C., there has been no evidence for a continuous sequence of human occupation in the region. Some of the gaps in the archaeological record at Montreal Lake, however, may be partly represented in the unidentified materials obtained. In any case, the relative frequency of cultural materials from identified complexes was taken as an indicator of local and regional activity. As such, 3 main periods of cultural activity could be identified (Fig. 4). The period of greatest occupational activity was represented by the Clearwater Lake complex of the late prehistoric period. This complex was considered to stand in considerable contrast to that evidenced by the early Meso-Indian complexes. The differences manifested were sufficiently great that the complexes of the 2 periods were considered representations of separate, distinct cultural traditions.

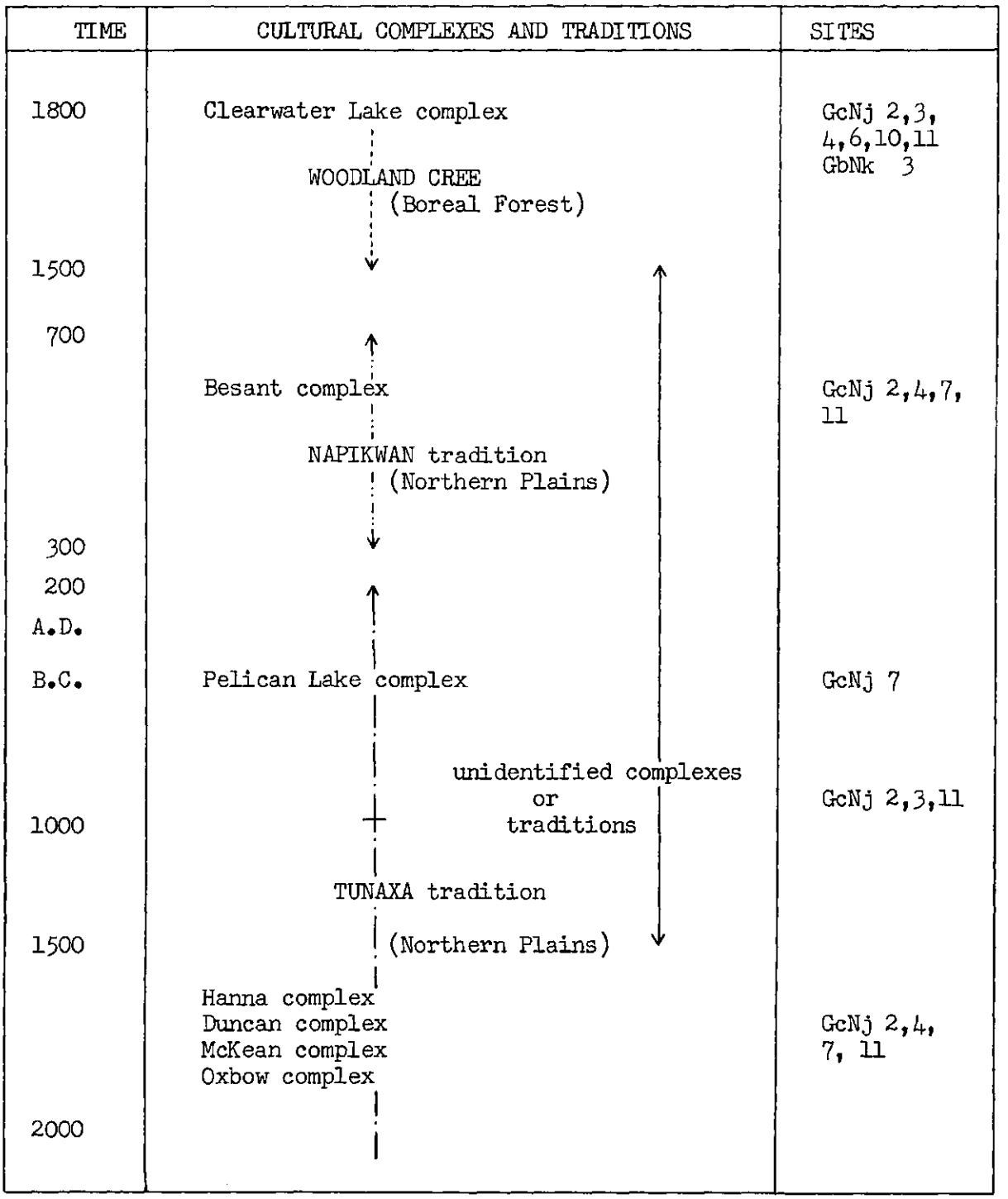


Figure 4 Cultural Complexes and Traditions for Montreal Lake.

PART II SITE DESCRIPTION AND ARTIFACT ANALYSIS

4. INTRODUCTION

The goal of establishing a culture history for the Montreal Lake region required the description and analysis of the material culture recovered. The data used as the basis for this aim was derived from a number of sites, and is ordered according to the site from which it was recovered. Only those sites from which pertinent data was obtained are included in the following descriptions. Within this framework, the sites are each described in regard to location, topography, and significant or identifying characteristics. The cultural materials from the sites are then described according to the various artifact classes, and typological comparisons are suggested when possible. At those sites where strict artifact provenience was recorded, this information is then presented and interpreted. A summary description of the site is then made on the basis of the preceding artifact analysis.

Following the recovery of the archaeological data, the process of analysis began. This process was made difficult by both methodological and theoretical problems. The most difficult of these to accept was the recognition that some personal bias was inevitable in the perception of significant attributes. This problem was particularly acute with artifacts which were eligible for placement in more than 1 artifact class, or when artifacts were fragmentary and of doubtful significance. Decisions in these instances were occasionally arbitrary and consisted of ad-hoc adjustments to the criteria governing the decision making process.

The 2 methodologies employed in analyzing the artifacts were that of attribute and typological analyses. Attribute analysis was considered a primary aid in determining and describing artifact types as well as allowing potential statistical tests of significance. Typological analysis was used principally in the comparison of diagnostic artifacts to those from other areas and was considered an important tool for the reconstruction of culture history. The concept of type used in this thesis pertained to specific forms of artifacts which were considered to have a spatial and temporal significance which had been established elsewhere.

Lacking radiocarbon dates for the Montreal Lake region, the reconstruction of the culture history was based on typological comparison of diagnostic artifacts and relative dating of a multiple component site, GcNj 2. Relative dating of artifacts from this site was accomplished in the laboratory by plotting the vertical provenience of every artifact recovered against charts bearing representations of the soil profiles. The horizontal mapping of features and artifacts enabled recognition of activity areas, and from the identification of faunal remains it was possible to infer seasonality of occupation.

A number of terms are used throughout this thesis and basic definitions of the major artifact classes are listed as follows:

Projectile Point: This class refers to weapon tips used to kill game and includes both arrowheads and spearheads. Distinctions between this class and bifacial knives are frequently difficult to determine because a continuous size range sometimes occurs and all

of these artifacts may have similar overall forms.

Scraper: A scraper is an artifact that may have been used to scrape hide, bone or wood. It is usually retouched on one face only and is often difficult to distinguish from a uniface. The working edge of a scraper is frequently characterized by steep, fine retouch along a scraping edge that is straight or convex in form, but not denticulate or sinuous.

Uniface: Unifaces have been flaked on 1 surface only, usually, with the ventral surface left as a flat plane. Unifaces are often larger than scrapers, and are frequently of irregular form. Edge retouch may be highly variable as to extent of form and edge angle. Unifaces with shallow edge angles are generally thought to represent cutting implements, while those with greater edge angles could indicate chopping, gouging, or scraping functions.

Biface: Bifaces are artifacts which have been flaked on both the dorsal and ventral surfaces. Varieties of bifaces may exist with distinguishing criteria usually being overall form, flaking characteristics, raw material and use-wear. Bifacial edge tools are usually flaked only along the working edge of each artifact. The varieties of bifaces manifested are considered potentially representative of a number of functions including cutting, chopping, gouging and scraping activities.

Flake: A flake is a variety of shatter having particular characteristics including a striking platform and bulb of percussion resulting from a blow on conchoidally fracturing material.

Detritus: This term includes cobbles of raw material, and flakes and shatter from rock breakage.

Among the terms used to describe artifact forms, the term 'intermediate' was applied to those artifact forms which could not be clearly regarded as 'expanding' or 'contracting' in form towards either the proximal or distal end.

The pottery found in the Montreal Lake region is described in terms of vessels. Potsherds having similar characteristics of paste, form and decoration were considered to be representative of a single vessel. Two or more similar vessels could therefore potentially be represented in the potsherd collection from a site. These similar vessels might remain unrecognized unless their spatial distribution was distinct, or unless sufficient sherds could be reconstructed to indicate the number of vessels.

The predominant stone working technique employed in the Montreal Lake region, particularly during the late prehistoric period, was the bipolar stone working method. This technique resulted in 6 varieties of core forms, including a 'wedge' variety which has sometimes been regarded as an artifact class (Forsman 1976: 16-26).

Several abbreviations and notations are used in the presentation of artifact descriptions. Descriptions of an artifact in the text are followed by a number in brackets which indicates the catalogue number of the specimen referred to.

Some explanation is also necessary regarding the presentation of data given in tabular form. All metric attributes

are given in millimeters and fractions of millimeters, although no notation of this is represented. Abbreviations for artifact and metric attributes occur frequently. Abbreviations common to most of the tables include:

N	-	frequency, or number (of specimens or attributes)
%	-	percent
SPEC. NO.	-	artifact catalogue number
-	-	attribute not measureable or not present

Abbreviations occurring in scraper tables are:

MIN. E.	-	minimum angle of working edge
MAX. E.	-	maximum angle of working edge

Abbreviations common to tables of bipolar cores include:

A-A	-	opposing area variety
P-P	-	opposing point variety
P-A	-	point opposed by area variety
R-P	-	ridge opposed by point variety
R-A	-	ridge opposed by area variety
R-R	-	opposing ridge variety
Sx	-	the sum of measurements (of an attribute for all specimens)
$\bar{x}$	-	mean

Tables of projectile point attributes also use abbreviations:

L.	-	length
W.	-	width
T.	-	thickness
S.W.	-	stem width
B.W.	-	base width
N.W.	-	notch width (averaged, if 2 notches are present)
N.D.	-	notch depth (averaged, if 2 notches are present)
N.H.	-	notch height (measured from base to point of minimum width between notches)

5. SINGLE COMPONENT AND DISTURBED SITES

Altogether, there were 22 archaeological sites recorded for the Montreal Lake region (Figs. 2,3). Of this total, only GcNj 9 was a strictly historic site, and according to local informants was a small Hudson's Bay store dating to the early part of the twentieth century.

5.1 SITE GbNk 3

This site is located on the lakeshore in McKean Bay (Fig. 2), and is backed by a discontinuous storm ridge. The nearby topography is generally of low relief and supports a muskeg vegetation of grasses and mosses. In an average or slightly dry year, this site area is quite dry and well drained by late July or early August. Such was the case in 1972, but in 1973 the low lying land remained covered by water throughout the summer. About 20 m away from the lakeshore, higher ground occurs which supports a jackpine vegetation, but no cultural material was found there.

Cultural material recovered from the site came mostly from the underwater area of the lakeshore. A small amount of cultural material was also recovered from the storm ridge proper. The distribution of cultural remains extended for approximately 15 m along the beach and approximately 2 m into the lake. Numerous small rocks and cobbles derived from glacial till deposits formed the beach.

Cultural materials recovered from the site consisted of pottery and lithic remains. Some of the materials from the beach portion of this site were slightly waterworn. Although there were some faunal remains in the water, these were not collected as they possibly

represented contemporary debris associated with a nearby fishing and hunting camp. No features or early historic artifacts were noted. The lithic materials collected are summarized in Table 2.

Table 2. GbNk 3 Artifact Summary

ARTIFACT CATEGORY	N	%
Unifaces	2	7.69
Bipolar Cores: P-A	1	7.69
R-R	1	
Random Core	1	3.85
Detritus	21	80.77
Total	26	100.00

Artifact Description

Unifaces

There were 2 unifaces recovered from the site, including 1 of quartz and 1 of chert. The metric attributes of these specimens are given in Table 3.

Uniface of Quartz

This artifact (2) had a slightly convex working edge located distally. The specimen was characterized by edge retouch only. The original blank form of the specimen was indeterminate and overall form was expanding towards the distal edge.

Uniface of Chert

This specimen (10) had a slightly sinuous working edge located distally and was characterized by edge retouch only. The artifact showed some evidences of percussion marks and battering located bilaterally, suggesting that the artifact had been made from a blank form produced by a hammer and anvil or bipolar stone working method.

The overall form of this uniface was expanding towards the distal edge.

Table 3. GbNk 3 Uniface Metric Attributes

SPECIMEN No.	LENGTH	WIDTH	THICKNESS
2	53.8	47.0	15.3
10	18.3	19.5	6.0

Random Core

The single random core (1) recovered was considerably larger than the 2 bipolar core specimens. The classification of this object as a random core was based on the removal of cortex from one end of the cobble. This removal seemed to have taken place by strong percussion blows from a number of different angles. Battering or shatter marks from crushing of the core were absent, indicating that the specimen had not been made with the hammer and anvil technique. The metric attributes of this specimen are given as Table 4.

Table 4. GbNk 3 Random Core Metric Attributes

SPECIMEN No.	LENGTH	WIDTH	THICKNESS
1	93.0	70.2	44.6

Bipolar Cores

The 2 bipolar core specimens (5,23) were both of quartz. The metric attributes of these specimens are given in Table 5. These 2 cores were considered representative of 2 varieties of bipolar core, the opposing ridge variety, and the opposing point variety.

Table 5. GbNk 3 Bipolar Core Metric Attributes

	P - P	R - R
LENGTH	30.4	28.7
WIDTH	10.0	38.3
THICKNESS	11.3	10.4

Pottery

The potsherds recovered were considered representative of a single vessel only. There were 1 rimsherd and 7 bodysherds recovered.

Paste: The paste was moderately tempered with crushed granite which ranged from 1.0 to 2.5 mm in size. The texture was medium. The exterior surface had been fabric-impressed and was slightly smoothed. The weft impressions were vertical in pattern and varied in length from 3.1 to 3.6 mm, and from 0.9 to 1.5 mm in width. These impressions were closely spaced and indicated a tightly woven fabric or babiche.

Decoration: A single row of circular punctates had been impressed from the exterior of the rim and formed raised bosses on the interior surface. These punctates were about 3.8 mm in diameter at the farthest impression and about 5.3 mm in diameter at the surface. Punctate spacing was about 27.8 mm center to center, and the punctates were located about 15.0 to 16.9 mm below the lip.

Form: The lip was flattened-to-slightly convex in cross-section and was smooth.

Conclusions

The small surface collection from an almost completely eroded site suggested a single component, short-term occupation site. The exposed location of the site and the yearly fluctuations of the water levels could have possibly correlated with a seasonal Fall period of occupation.

None of the lithic remains were of diagnostic value. The pottery fragments, however, conformed to the definition of the Clearwater Lake Punctate Type of Winnipeg Fabric - Impressed Ware as formulated by

Hlady (1971: 7,8). The rimsherd recovered, specifically, corresponded to Hlady's 'basic mode' (1971: 8). This typing of the pottery was considered of significant value because of its interpreted association with the Woodland Cree (Hlady 1971: 19). This site, consequently, was placed late in the region's temporal framework and was considered representative of a Woodland Cree occupation.

5.2 SITE GcNj 1

This site is situated on the south side of O'Connor Bay and immediately to the east of the entrance to the bay (Fig. 3). The site had been extensively disturbed due to the construction of picnic facilities and placement of a parking lot in the same location. A considerable portion of the original vegetation had been removed and it was difficult to estimate how much the topography had been altered by these activities. Some portion of the site remained, however, as was indicated by the erosion resulting from the 1973 high water levels. This erosion exposed prehistoric cultural remains which had been trapped under the gravel base of the parking lot.

Mel Welsh originally reported this site and noted only quartz shatter picked up from the surface (personal communication: 1972). No test pits were dug in the parking lot or picnic area and such attempts in adjacent areas proved fruitless. The total collection for the site was represented by surface recovered material which consisted of lithic remains and 1 bone fragment (unidentified). No pottery or early historic artifacts were found. The lithic collection is summarized in Table 6.

Table 6. GcNj 1 Artifact Summary

ARTIFACT CATEGORY		N	%
Scrapers		2	5.71
Uniface		1	2.86
Bipolar Cores: P-P		2	8.57
R-A		1	
Detritus		29	82.86
	Total	35	100.00

Artifact Description

Scrapers

There were 2 scrapers recovered from this site, including 1 of quartz, and 1 of chert. The metric attributes of these specimens are given in Table 7.

Scraper of Quartz

This specimen (12) had a slightly convex working edge, located distally. The width dimension was greater than the length. The specimen evidenced some shatter marks bilaterally and battering proximally. These attributes were taken as an indication that the blank form had been produced by the bipolar knapping method. Overall form was intermediate.

Scraper of Chert

This specimen (9) had a convex working edge located distally and had a width dimension greater than the length. There was some evidence of crushing or battering on 1 lateral edge which could be derived from the type of blank, i.e., a bipolar reduced core. Overall form was expanding towards the distal edge.

Table 7. GcNj 1 Scraper Metric Attributes

SPEC. NO.	LENTTH	WIDTH	THICKNESS	MIN.E.	MAX.E.
9	25.9	27.0	7.2	80°	89°
12	19.3	23.2	9.0	80°	89°

Uniface

There was 1 chert uniface (11) recovered from the site. Although broken distally, the metric attributes of this specimen are given as Table 8.

Table 8. GcNj 1 Uniface Metric Attributes

SPEC. NO.	LENGTH	WIDTH	THICKNESS
11	26.0	30.3	13.2

This artifact was characterized by bilateral edge retouch, with 1 edge convex in form and the other edge slightly sinuous. This uniface appeared made on a flake blank with the striking platform located proximally and bulb of percussion ventrally. The overall form was considered intermediate, i. e., neither expanding nor contracting towards either distal end.

Bipolar Cores

There were 3 bipolar cores recovered and all were of quartz. The metric attributes of these specimens are given in Table 9.

Table 9. GcNj 1 Bipolar Core Metric Attributes

		P-P	R-A
LENGTH	minimum	26.2	
	maximum	41.3	30.3
WIDTH	minimum	14.0	
	maximum	19.2	52.9
THICK	minimum	6.5	
	maximum	11.0	16.5
N		2	1

The 3 bipolar core specimens recovered were considered representative of 2 varieties of bipolar core, including 2 specimens of the opposing point variety, and 1 specimen of the ridge opposed by area variety.

Conclusions

Due to the absence of diagnostic artifacts in the small collection recovered, and considering the disturbed condition of the site, interpretation of the site and data could only be speculation. The presence of a single bone fragment, however, of reasonably good preservation might indicate a rather late period of prehistoric occupation.

5.3 SITE GcNj 6

This site is located on the east side of Montreal Lake, near the entrance to O'Connor Bay (Fig. 3). Considerable disturbance of the site had taken place due to the location of picnic grounds in the same area. The disturbance of this site, however, was not as extensive as that at GcNj 1. A small clearing at GcNj 6 and erosion along the lakeshore exposed the soil base as a deep sandy deposit.

Most of the artifacts recovered from this site were found along the beach or on the shallow lake bottom in front of this area. Historic debris was also found in the water or on the beach but related to contemporary use of the site as a picnic ground. No faunal remains were recovered. Most of the material found consisted of lithics, but a few potsherds were also found.

Test pits in the eroded and nearby uneroded areas yielded sterile soil. Sixty meters to the northwest, however, testing

exposed a cultural component within the Ahe horizon and the top 5 cm of the gray, fine sandy Ae horizon. The cultural remains consisted of lithic materials and a potsherd. No faunal remains or historic objects were found in association with this level. The relative distribution of cultural material collected from the beach area could be compared with the excavated data. This is represented in Table 10, where an artifact summary for the site as a whole is given by combining the data from the 2 areas of the site.

Table 10. GcNj 6 Artifact Summary

ARTIFACT CATEGORY		N	%
Scrapers		2	1.11
Large Biface		1	0.55
Biface Fragment		1	0.55
Small Biface		1	0.55
Biface Edge Tool		1	0.55
Bipolar Cores:	A-A	2	5.55
	P-A	2	
	R-A	4	
	R-R	2	
Detritus		164	91.11
	Total	180	99.97

Artifact Description

Scrapers

There were 2 scrapers recovered from the site and both (95,106) were of chert. The metric attributes of these specimens are given in Table 11. Both appeared broken unilaterally but for purposes of description were considered complete. Both specimens had convex working edges located distally and length dimensions were greater than width. Both were made on indeterminate blank forms and were expanding in overall form towards the distal edge.

Table 11. GcNj 6 Scraper Metric Attributes

SPECIMEN NO.	LENGTH	WIDTH	THICKNESS	MIN. E.	MAX. E.
95	24.0	19.9	9.0	68°	75°
106	22.3	20.8	9.6	69°	78°

Large Biface

There was 1 large biface (1), of quartz, recovered and the metric attributes of this specimen are given in Table 12. This large biface had 2 working edges, located bilaterally. One working edge was sinuous in form and the other edge was slightly convex. This large biface was mainly edge worked with flaking of the dorsal surface dominant, i.e., minimal flaking was evident on the ventral surface, where it was discontinuous and formed a plano surface. The blank form was indeterminate and there was no evidence of battering. The overall form of the specimen was ovate - bipointed.

Table 12. GcNj6 Large Biface Metric Attributes

SPECIMEN NO.	LENGTH	WIDTH	THICKNESS
1	62.7	28.7	21.6

Biface Fragment

There was a single biface fragment (91) of chert recovered.

Small Biface

There was 1 small biface (88), of chert, recovered and although the tip was broken the metric attributes of this specimen are given as Table 13. This artifact had 2 convex working edges, located bilaterally. The specimen was completely worked bifacially and appeared thinned proximally. Overall form was contracting towards the distal end, or ovate - pointed in form.

Table 13. GcNj 6 Small Biface Metric Attributes

SPECIMEN NO.	LENGTH	WIDTH	THICKNESS
88	29.8	22.1	6.5

Biface Edge Tool

A single biface edge tool (118), of chert, had 2 working edges. These were located bilaterally and were slightly concave in form. One of the lateral edges was worked bifacially and the other unifacially. The metric attributes of this specimen are given as Table 14.

There was some indication of shatter marks and battering located proximally and distally, which suggested that the original blank had been produced by a bipolar knapping technique. The overall form of the specimen was rectanguloid.

Table 14. GcNj 6 Biface Edge Tool Metric Attributes

SPECIMEN NO.	LENGTH	WIDTH	THICKNESS
118	20.5	13.0	5.9

Bipolar Cores

There were 10 cores of the bipolar class recovered, including 8 of quartz and 2 of chert. The metric attributes of these specimens are given in Table 15. The 2 bipolar cores recovered in association with the chipping station included 1 specimen (74) of quartz, of the opposing area variety, and 1 specimen (90) of chert, of the ridge opposed by area variety. Some of the detritus constituting the chipping station was considered as derived from these 2 core specimens.

Cobble

The quartz cobble associated with the chipping station was

considered unutilized raw material. The dimensions of the cobble were within the range of variation as represented by the bipolar cores from the site. As there was only sandy soil and sandy parent material in this locality, it was assumed that all the raw material had been obtained from glacial till deposits approximately 2.3 km to the east.

Table 15. GcNj 6 Bipolar Core Metric Attributes

		A-A	P-A	R-A	R-R
LENGTH	Minimum	35.8	18.1	20.0	26.6
	Maximum	48.9	22.2	51.8	62.0
	Sx	84.7	40.3	153.1	88.6
	x	42.3	20.1	38.2	44.3
	Median	42.3	20.1	35.9	44.3
WIDTH	Minimum	32.6	13.6	15.2	22.7
	Maximum	44.6	17.1	47.3	35.6
	Sx	77.2	30.7	134.4	58.3
	x	38.6	15.3	33.6	29.1
	Median	38.6	15.3	31.2	29.1
THICKNESS	Minimum	17.0	13.0	8.8	14.1
	Maximum	24.5	14.7	24.4	23.7
	Sx	41.5	27.7	71.4	37.8
	x	20.7	13.8	17.8	18.9
	Median	20.7	13.8	16.6	18.9
N		2	2	4	2

Anvil-Hammerstone

This specimen was associated with the chipping station and was a quartizite cobble with battering marks on 1 angular end, which suggested hammer-use. Less pronounced battering and scarring on 1 of the flat surfaces implied usage as an anvil. Battering and some cortex removal also occurred on other portions of the cobble.

Pottery

Only bodysherds were recovered from this site, including 10 that were surface collected and 1 that was excavated. Most of the

potsherds recovered from the water appeared to be considerably waterworn. Tempering appeared to consist of crushed quartz and varied from 1.0 to 5.6 mm in size. Texture varied from medium to coarse. On less waterworn specimens, the exterior surface showed fabric impressions and the interior surfaces were smooth. Thicknesses of the bodysherds varied from about 4.0 to 9.0 mm.

The single bodysherd recovered from the test excavation was about 5.0 mm in thickness, fabric impressed on the exterior and smooth on the interior. Temper was crushed granite of 0.8 to 4.4 mm in size, and texture was medium.

Cultural Configurations

During test excavations, a cluster of quartz and chert detritus was noted and considered as a chipping station. This activity area accounted for most of the detritus represented from the excavated units. In association with the chipping station were 2 bipolar cores, the small biface, a biface edge tool, a quartz cobble, and a quartzite anvil - hammerstone.

Conclusions

Both the excavated data and the beach collection argue for a single component, single site interpretation. The apparently sterile zone separating the 2 areas could be due to inadequate testing. The pottery was the only diagnostic element and its similarity to that found throughout the Montreal Lake region suggested the Clearwater Lake Punctate Type of Winnipeg Fabric - Impressed Ware. This would indicate a late prehistoric Woodland Cree occupation, and a boreal

forest cultural tradition. The site was thus considered to date post - A.D. 1500. Seasonal occupation was indeterminate.

5.4 SITE GcNj 4

This site is located on a ridge and on an adjacent lower area to the east. This location is about 500 m east of Montreal River and within the community of Molanosa (Fig. 3). Elevation of the ridge varied but at the north end where it is truncated by a small tributary, the height of the ridge is about 7 m above the creek. The little creek forms the nearest source of water and is also navigable by canoe. Vegetation on top of the ridge consists mainly of jack pine and short grasses. On the lower land to the east of the ridge, jack pine predominates although other arboreal species also occur. On the lower ground to the west of the ridge, however, poplar is the dominant arboreal form. The soil deposits of the site are all sandy, and probably originated from glacio-fluvial action.

Various activities due to contemporary community life in the area resulted in the disturbance and erosion of the site. These activities exposed prehistoric cultural material both along the ridge and on the lower ground east of the ridge.

Materials recovered were mostly lithics but also included a single potsherd. Small amounts of fragmented bone were noted, but there were no indications of features, and historic materials were of recent origin.

Although the site appeared badly disturbed, some testing was done on top of the ridge. Test excavations consisted of 2 1-meter squares and 2 1-meter by $\frac{1}{2}$-meter units. The Ahe and Ae soil zone

formations were thin relative to the other tested sites. Artifact recovery from these excavation units was poor, with only 1 unit producing cultural material. These materials came from near the top of the Bt soil zone and included 4 pieces of shatter and a bipolar core. The artifact collection from this site is summarized in Table 16.

Table 16. GcNj 4 Artifact Summary

ARTIFACT CATEGORY		N	%
Projectile Points		6	1.48
Scrapers		6	1.48
Unifaces		4	0.98
Bifaces fragment		3	0.74
Bipolar Cores:	A-A	1	1.23
	P-P	1	
	P-A	1	
	R-P	1	
	R-R	1	
Detritus		381	94.07
	Total	405	99.98

Artifact Description

Projectile Points

The projectile point category included 5 basal fragments and 1 complete specimen. Of the basal fragments, 4 were side-notched, and 1 was lanceolate with only a slight incurvature of the sides near the base. These basal fragments seemed to represent the basal 1/3 of the points. As the projectile point population was both small and fragmentary, it was difficult to derive satisfactory and full interpretations from either attribute or typological analyses. The available metric attributes of the projectile points from this site are given in Table 17. Because of their potential diagnostic

value, these projectile points are described separately.

One of the specimens (37-Plate 1, c) consisted of a corner fragment which evidenced a lightly ground side-notch. The base was concave and slightly thinned and had not been ground. The fragment appeared to represent a late, small side-notched projectile point type.

Specimen No. 4 (Plate 1, g) of quartz, consisted of the basal portion of a point lacking true side-notches. The lateral edges, however, were incurvate in the basal region and suggested an overall lanceolate form. One side appeared ground and the other lightly smoothed. The base was concave and had been thinned but was unground. Basal junctures were obtuse angled to slightly rounded. The available attributes of this specimen suggested affiliations to the early Meso-Indian projectile point types, possibly McKean or Duncan types.

Table 17. GcNj 4 Projectile Point Metric Attributes

SPECIMEN NO.	L.	W.	T.	S.W.	B.W.	N.W.	N.D.	N.H.
4	-	17.8	5.4	16.9	17.6	-	-	-
80	-	-	6.1	14.4	19.0	-	-	[illegible].0
29	-	19.0	4.8	13.5	17.4	-	-	8.4
37	-	-	5.0	-	-	-	-	-
79	-	-	5.4	9.8	12.9	-	-	5.8
66	20.9	12.5	4.7	8.8	-	3.4	2.0	5.6

Specimen No. 80 (Plate 1, f), of quartz, was the basal fragment of a projectile point broken at the side notches. The notches appeared deep, rounded, and had been ground. The basal edges were rounded. Although this specimen was limited to a basal fragment, the available attributes suggested the Besant type of projectile point.

Specimen No. 29 (Plate 1, d), of quartzite, was the basal fragment of a projectile point broken above the side-notches. One shoulder was sloping and had a rounded shoulder juncture, the other was incomplete due to breakage. The side-notches were rounded and deep but were unground. The base was convex, and had been thinned and lightly ground. The available attributes suggested the Besant type of projectile point.

Specimen No. 79 (Plate 1, a), of quartz, consisted of a basal fragment broken at the side-notches. The notches appeared asymmetrical, with 1 notch shallower and broader than the other. Both were rounded and had been ground. One basal edge had been broken, but the other was angular and slightly round. This specimen was 1 of the late, smaller side-notched types of projectile point.

Specimen No. 66 (Plate 1, b), of chert, was a nearly complete projectile point. This specimen had nearly straight body sides, and sloping shoulders which formed right-angled shoulder junctures. One side-notch was round at the stem and the other was straight. Both were ground. One base edge was missing, but the other was round. The base was convex, thinned and lightly ground. The attributes of this specimen indicated typological affiliation to the late, small side-notched types of the Plains area.

One other projectile point was known to be found at the site, an Oxbow type of projectile point collected by a local resident. This specimen was reportedly found on lower ground to the east of the ridge and about 100 m south of the creek. The specimen was complete, and unusual in that a slight concavity was present on

either side of the point tip, giving the distal end a graver aspect.

Scrapers

There were 6 scrapers recovered from this site including 5 of chert and 1 of quartzite. The metric attributes of these specimens are given in Table 18. There was 1 scraper badly broken (no. 92), of chert and its length and width dimensions were unrecorded. The only formal attribute noted from this specimen was the presence of a convex working edge.

Scrapers of Chert

All specimens had a convex working edge located distally and no additional working edges were present. There was 1 scraper (78) with a width dimension greater than the length. None of the specimens evidenced modification from flake blank forms. One specimen (70) manifested small shatter marks located proximally, and another specimen (78) appeared slightly battered bilaterally, and these could be indicative of blank forms produced by bipolar stone working. Another scraper (54 - Plate 1, e) was formed on a hafted blank which might originally have been a projectile point, possibly of Besant type. There were 2 scrapers (70, 96) expanding in overall form towards the distal end and 2 specimens (54, 78) were intermediate in form.

Scraper of Quartzite

This specimen (32) had a convex working edge located distally and a width dimension greater than the length. Shattering and battering occurred proximally and suggested that the original blank form was produced by the bipolar technique. Overall form was

expanding towards the distal edge.

Table 18. GcNj 4 Scraper Metric Attributes

	LENGTH	WIDTH	THICKNESS	MIN. E.	MAX E.
Minimum	13.7	8.0	2.6	53°	64°
Maximum	29.8	24.7	10.8	75°	110°
Sx	100.3	84.1	39.4	361	494
x	20.1	16.8	6.6	60°	83°
median	19.0	17.5	6.3	58°	79°
N	5	5	6	6	6

Unifaces

There were 4 unifaces recovered from the site, including 3 of chert and 1 of quartzite. Although all were broken to varying degrees, the metric attributes of this group appear in Table 19.

Unifaces of Chert

There was 1 uniface (36) with a convex working edge located laterally, 1 uniface (94) with a sinuous working edge located laterally, and 1 uniface (56) had 2 working edges, located bilaterally. On this specimen, 1 working edge was slightly convex and the other edge straight. The 3 specimens were characterized by edge retouch but 1 specimen (36) also appeared flaked extensively over the dorsal surface. The original blank forms of these unifaces were indeterminate. There was 1 uniface (56) expanding in form towards the distal edge, 1 specimen (94) intermediate or variable, and 1 specimen (36) was contracting in form towards the distal end.

Uniface of Quartzite

This specimen (66) had a convex working edge located laterally and was characterized by edge retouch only. The

original blank form was indeterminate and the overall form was contracting towards the distal end.

Table 19. GcNj 4 Uniface Metric Attributes

SPECIMEN NO.	LENGTH	WIDTH	THICKNESS
36	21.0	27.9	9.1
56	20.2	13.3	3.0
66	28.6	27.2	4.0
94	27.0	14.4	5.6

Biface Fragments

There were 3 biface fragments of chert recovered from this site. Two of these specimens (31, 75) appeared to be projectile points or small biface tips. The other specimen (76) was an edge fragment.

Bipolar Cores

There were 5 bipolar cores recovered from the site and all were of quartz. The metric attributes of these specimens are given in Table 20. There were 5 varieties of bipolar core represented in this sample, including opposing area, opposing point, point opposed by area, ridge opposed by point, and opposing ridge.

Table 20. GcNj 4 Bipolar Core Metric Attributes

	A-A	P-P	P-A	R-P	R-R
LENGTH	18.8	53.4	18.9	17.5	33.8
WIDTH	15.0	21.5	14.6	14.3	17.8
THICKNESS	10.9	17.0	8.7	5.6	7.4
N	1	1	1	1	1

Pottery

The single bodysherd recovered was weathered and there was

uncertainty whether or not it was a split sherd. The interior surface was smooth and the original nature of the exterior surface was indeterminable. Temper was of crushed granite 1.0 mm to 5.4 mm in size. Texture was medium and the thickness of the sherd was 5.9 mm.

Conclusions

One of the interesting characteristics of the lithic collection from this site was that no large artifacts or pieces of debittage were found. The largest specimen collected was the quartz opposing point bipolar core (42) which was excavated. The other excavated materials were small in size and similar to the surface finds. While the size of the materials recovered was generally small, it seemed hazardous to propose a cultural explanation for the fact due to the extensive contemporary disturbance.

The presence of various projectile point types suggested a number of periods of occupation. Multiple component sites in the Montreal Lake region were uncommon yet the factors which could contribute to the utilization of this locus repeatedly through time were not readily apparent. Cultural material was not abundant and there was a general absence of other pertinent information as might be provided by floral and faunal remains. Characteristics which distinguished this site from others in the locality were mainly topographic and included the relatively high ridge which commanded a view of the Montreal River, and a well-drained, sheltered area located east of the ridge serviced by a spring fed creek.

There were 3 definite periods of occupation or site utilization found. The earliest of these related to finds of Oxbow and probable McKean type projectile points, representative of the early Meso-Indian period of occupation. This period could tentatively be dated around 2000 - 1000 B.C., based on cross-dating from radiocarbon dated components elsewhere. That the Oxbow point appeared to evidence reworking into a hafted graver could be indicative that the site was not strictly a hunting or kill site, but may have evidenced at least a short term camp.

The second period of site utilization pertained to the occurence of basal fragments of the Besant projectile point type. The hafted scraper (54) from this site might also be assigned to this component and could be indicative of actual habitation of the site during this period. This period was considered to date approximately A.D. 300 - 700.

The occurrance of small side-notched projectile points signified site utilization probably during the latter part of the Neo-Indian period, and could occur contemporaneously with the pottery. The pottery was not diagnostic, but as the only pottery found to date in the Montreal Lake region has been of the Clearwater Lake Punctate type, it was considered that this fragment related to occupation by the late prehistoric Woodland Cree.

Seasonality of occupation was not indicated but the sheltered location of the site would probably meet the requirements of a winter encampment location.

5.5 SITE GcNj 11

This site is located on the northeast side of O'Connor Bay, at the entrance to Montreal River (Fig. 3). The site is low and flat. In 1972 the elevation of the site was about 0.5 m above the lake, but in 1975 the water level was approximately the same as the site elevation. Such conditions made it impossible to excavate the site, as had been planned, and the only data available was that collected from the previous season. The site area was a large clearing covered by grasses, and nearby vegetation consisted of willows, poplars and birch. One part of the site appeared to have been gardened and was enclosed by a fence. The site had been used in recent historic times as a fishing camp and there were permanent frames set up for net drying, fish curing and a tipi.

Most of the cultural material collected from the site came from a washed out area along the beach. The collection consisted mainly of lithics, and a few pieces of pottery. Most of the historical debris and faunal remains appeared to belong to the recent period, i.e., twentieth century, and were not collected. A 1-meter square test pit and 2 smaller units were excavated near the lakeshore. The natural stratigraphy in these units appeared undisturbed. Cultural material excavated consisted of 1 bipolar core, and 6 pieces of debittage which came from the Ae (gray-white) soil horizon. The soil and parent materials were fine sandy glacio-fluvial deposits. Table 21 summarizes the lithic collection from the site.

Table 21. GcNj 11 Artifact Summary

ARTIFACT CATEGORY		N	%
Projectile Points		9	6.92
Scrapers		9	6.92
Large Bifaces		3	2.31
Small Bifaces		2	1.54
Bipolar Cores:	R-A	3	4.62
	R-R	3	
Deitritus		101	77.69
	Total	130	100.00

Artifact Description

Projectile Points

There were 9 projectile points recovered from this site. Five of these were complete, 2 nearly complete, and 2 others were represented by the basal 1/3 of the point. The metric attributes of these specimens are given in Table 22.

Table 22. GcNj 11 Projectile Point Metric Attributes

SPECIMEN NO.	L.	W.	T.	S.W.	B.W.	N.W.	N.D.	N.H.
1	-	-	6.6	13.1	16.0	-	-	7.3
2	-	23.5	6.9	15.0	15.3	-	-	-
3	33.2	21.5	7.1	17.3	12.0	-	-	-
4	42.2	16.7	5.6	8.4	11.0	5.5	2.7	7.8
102	-	16.6	7.1	15.2	15.8	-	-	-
103	-	19.4	6.7	13.3	14.7	9.4	1.2	6.0
111	28.8	20.0	6.4	14.8	15.0	-	-	-
115	48.1	18.3	8.7	16.0	16.9	-	-	7.7
116	26.9	16.9	7.5	10.2	12.3	7.6	2.0	5.5

Specimen No. 103 (Plate 2, a), of quartz, was nearly complete although considerably water-worn and broken at the tip. Body sides were convex and the hafting modification consisted of side-notches. Shoulders were sloping and both side-notches were broad and shallow, but unground. The base was convex, and had been thinned, but was unground. The specimen was somewhat asymmetrical and suggestive of

a hafted small biface or knife, but also retained Besant projectile point type characteristics.

Specimen No. 116 (Plate 2, b), of chert, was complete. The body sides were straight to slightly convex, and a hafting modification was present in the form of corner-notches. Shoulders were sloping and both corner-notches were broad, well rounded and ground. The base was convex and had not been thinned but retained a portion of the original cortical surface. This specimen was not identified as to type.

Specimen No. 4 (Plate 2, c), of chert, was complete. This specimen had slightly convex body sides, and was corner-notched. One shoulder was barbed, the other sloping, and both shoulder junctures were rounded. The corner-notches were unground. The base was slightly concave and had been thinned, but was unground. Although the attributes present showed considerable variation to specimen No. 1, specimen No. 4 was considered typologically affiliated to the Hanna projectile point type.

Specimen No. 1 (Plate 2, d), of quartz, consisted of the basal fragment of a projectile point broken at the side-notches. The side-notches were broad, shallow, and had been ground. The overall basal form resembled a fish tail. The base was concave and had been thinned, but was unground. Although this specimen was incomplete, the available attributes indicated similarity to the Hanna projectile point type.

Specimen No. 111 (Plate 2, e), of quartz, was complete. This

point had convex body sides, and incurvate, sloping shoulders. Below the shoulders the form was stemmed, with parallel and unground sides. The base was roughly straight, had been thinned, and was slightly ground. This specimen varied in several attributes from specimen No. 3, yet was also considered representative of the Duncan type of projectile point.

Specimen No. 2 (Plate 2, f), of quartzite, consisted of a basal fragment broken off above the shoulders. Both shoulders were slightly incurvate and sloping. Below the shoulders, the specimen was stemmed, having parallel and ground sides. The base was slightly concave and had been thinned and ground. While this specimen was more typologically uncertain, it probably also belonged to the Meso-Indian period and could also represent a Duncan type variant.

Specimen No. 3 (Plate 2, g), of poor quality chert, was complete. This specimen had convex body sides and short sloping shoulders, which occurred about mid-length on the artifact. Below the shoulders, the stem was contracting towards the base. The base was concave and had been thinned. The sides of the stem and the base were unground. Although complete, the specimen was difficult to type but resembled the Duncan type of projectile point.

Specimen No. 102 (Plate 2, h), of quartz, was broken near the tip. This specimen had nearly parallel sides which were slightly convex in the body and were incurvate near the base. The lateral edges were ground near the base. The base was concave in form and had been thinned, but was unground. Basal junctures were rounded.

The morphological attributes of this specimen together suggested a projectile point of early Meso-Indian type, possibly McKean or slightly later Duncan variant.

Specimen No. 115 (Plate 2, i), of quartz, was complete. This specimen was lanceolate in overall form. The body sides were slightly incurvate near the base but were unground. Basal junctures were rounded. This projectile point was considered representative of an early Meso-Indian type, possibly Mckean or Duncan.

Scrapers

There were 9 scrapers recovered from this site including 4 of quartz, 4 of chert and 1 of quartzite. The metric attributes of these specimens are given in Table 23.

Scrapers of Quartz

The 4 quartz scrapers all had a single, convex working edge, located distally. All specimens were considered complete and 1 specimen (39) had a width dimension greater than the length dimension. One scraper (18) appeared to be made on a flake blank with the striking platform located laterally and a negative bulb of percussion on the ventral surface. The 3 other scrapers had battering and percussion scars to varying degrees which seemed indicative of bipolar compression forces rather than flaking. These scarring characteristics occurred left laterally on 1 specimen (39), and proximally on the 2 others (75, 113).

Scrapers of Chert

Of the 4 chert scrapers, 3 had convex distal working edges

and 1 was straight (36). One scraper (65) had an additional working edge located right laterally, and another specimen (7) was worked bilaterally. This latter scraper was worked alternately along part of 1 of the edges. All specimens were considered complete. Two of the scrapers (7, 65) appeared made on flake forms with the striking platforms located proximally and the bulbs of percussion located ventrally. Two of the scrapers (51, 36) were made on indeterminate blank forms. One scraper was intermediate in form and 3 scrapers (7, 36, 51) were expanding towards the distal edge.

Scraper of Quartzite

The single quartzite scraper (35) had 2 convex working edges, located distally and left laterally. The specimen was considered to be complete but made on an indeterminate blank form. Overall form was ovate, and contracting towards the distal end.

Table 23. GcNj 11 Scraper Metric Attributes

	LENGTH	WIDTH	THICKNESS	MIN.E.	MAX. E.
Minimum	16.8	14.8	3.9	50°	70°
Maximum	42.4	36.2	10.5	80°	116°
$\underline{Sx}$	215.2	184.3	66.5	567	878
$\bar{x}$	23.9	20.5	7.4	63°	88°
Median	19.7	19.5	8.1	62°	92°
N	9	9	9	9	10

Large Bifaces

There were 3 large bifaces, of quartz, recovered from this site. The available metric attributes of these specimens are presented in Table 24. Although 1 specimen (15) was badly broken, the length and thickness dimensions are nevertheless

given as the fragment was of considerable size. The only formal attribute noted from this specimen was the presence of a convex working edge.

There were 2 large bifaces (100, 105) which had 3 working edges, located distally and bilaterally. All of the working edges on 1 specimen (105) were convex, while on the other large biface (100) the distal edge and 1 lateral edge were convex in form, and the other lateral edge was straight in form. Both specimens appeared to be extensively worked bifacially and 1 (105) evidenced some battering distally. The larger specimen (100) was ovate in overall form, and the other specimen was contracting in form or semi-ovate towards the distal end. The larger artifact (100) also seemed to possess a hafting element proximally in the form of a short, contracting stem.

Table 24. GcNj 11 Large Biface Metric Attributes

SPECIMEN NO.	LENGTH	WIDTH	THICKNESS
15	60.8	-	17.4
100	88.6	44.5	18.0
105	41.3	47.5	13.3

Small Bifaces

There were 2 small bifaces, of quartz, recovered from this site. Although both specimens were broken proximally, their metric attributes are given in Table 25. One of the specimens (104) had 2 convex, but asymmetrical working edges, located bilaterally. Both artifacts appeared completely worked bifacially. Both small bifaces were contracting in form towards the distal end, but 1 specimen (104) was considered asymmetrical ovate-pointed in form,

and the other specimen (11) was considered as semi-ovate in form.

Table 25. GcNj 11 Small Biface Metric Attributes

SPECIMEN NO.	LENGTH	WIDTH	THICKNESS
11	21.9	27.9	10.0
104	39.2	22.8	9.5

Bipolar Cores

There were 6 bipolar cores recovered from the site, including 5 of quartz and 1 of chert. The metric attributes of this class are given in Table 26. The 6 specimens recovered represented 2 varieties, including ridge opposed by area, and opposing ridges.

Table 26. GcNj 11 Bipolar Core Metric Attributes

		R-A	R-R
LENGTH	Minimum	22.0	23.1
	Maximum	40.3	31.9
	Sx	84.5	99.0
	x	28.1	33.0
	Median	31.1	27.5
WIDTH	Minimum	16.5	16.2
	Maximum	31.9	33.2
	Sx	78.8	78.9
	x	26.2	26.3
	Median	24.2	24.7
THICKNESS	Minimum	12.0	8.7
	Maximum	17.3	10.3
	Sx	52.0	27.9
	x	17.3	9.3
	Median	14.6	9.5
	N	3	3

Pottery

The small sample of pottery recovered included 4 bodysherds and 1 rimsherd which appeared to represent a single vessel. All were recovered from the surface.

Paste: The paste was tempered with crushed quartz which ranged from 0.5 to 2.0 mm in size. The texture was medium to coarse and was smooth on the interior. The exterior surface had been fabric-impressed and slightly smoothed, but was badly water-worn.

Decoration: The rimsherd recovered was small in size and did not evidence any punctates as decoration.

Form: The lip had been fabric-impressed and slightly smoothed and flattened.

Conclusions

Although the artifact collection from the site was fairly small, the projectile point class was relatively large and showed considerable variation. Considering the diagnostic characteristics of the point class, and the presence of pottery, a number of distinct occupations were indicated. The earliest of these was represented by the occurrence of McKean, Duncan, and Hanna projectile point types, and may have occurred during the period 2000 - 1000 B.C. A later, tentative occupation is assigned to the Besant complex, ca. A.D. 300 - 700, on the basis of a badly water-worn projectile point. The final period of prehistoric occupation was indicated by the presence of pottery. Comparative typological analysis suggested that this pottery was probably of the Clearwater Lake Punctate type, from which a late prehistoric Woodland Cree occupation was inferred.

5.6 SITE GcNj 3

This site is located on the west side of Montreal River, about 1 km south of Molanosa (Fig. 3). The site is generally flat and varied in elevation to 2 m above the river level. Historical activity on the west end of the site related to the late 19th century, according to local informants. A clearing still remained in this area which supports grasses, shrubs, and choke cherry. The remainder of the site is covered by poplars, birch, and a few spruce trees.

There are no active beaches or eroding areas on the site, and small pit disturbances had not exposed any cultural material, but test excavations revealed historic and prehistoric components. A meter-grid was superimposed on the site, oriented along the magnetic north-south axis. Twenty-five square meters were excavated on this site in 1972 (Fig. 5). Results indicated that a slightly disturbed site fronted the river bank for a minimal distance of 88 m, and a width of approximately 10 m.

Cultural material collected from the site included historic objects, faunal remains, pottery, and lithics. Historic materials were broadly distributed across the site. These materials were generally limited to the leaf mold horizon, but there was occasional intrusion to lower soil zones. Most of the historic materials were considered related to the recent historic period, i.e., post 1875.

Faunal remains recovered also came mainly from the turf and upper part of the Ahe horizon. Potsherds and lithic materials

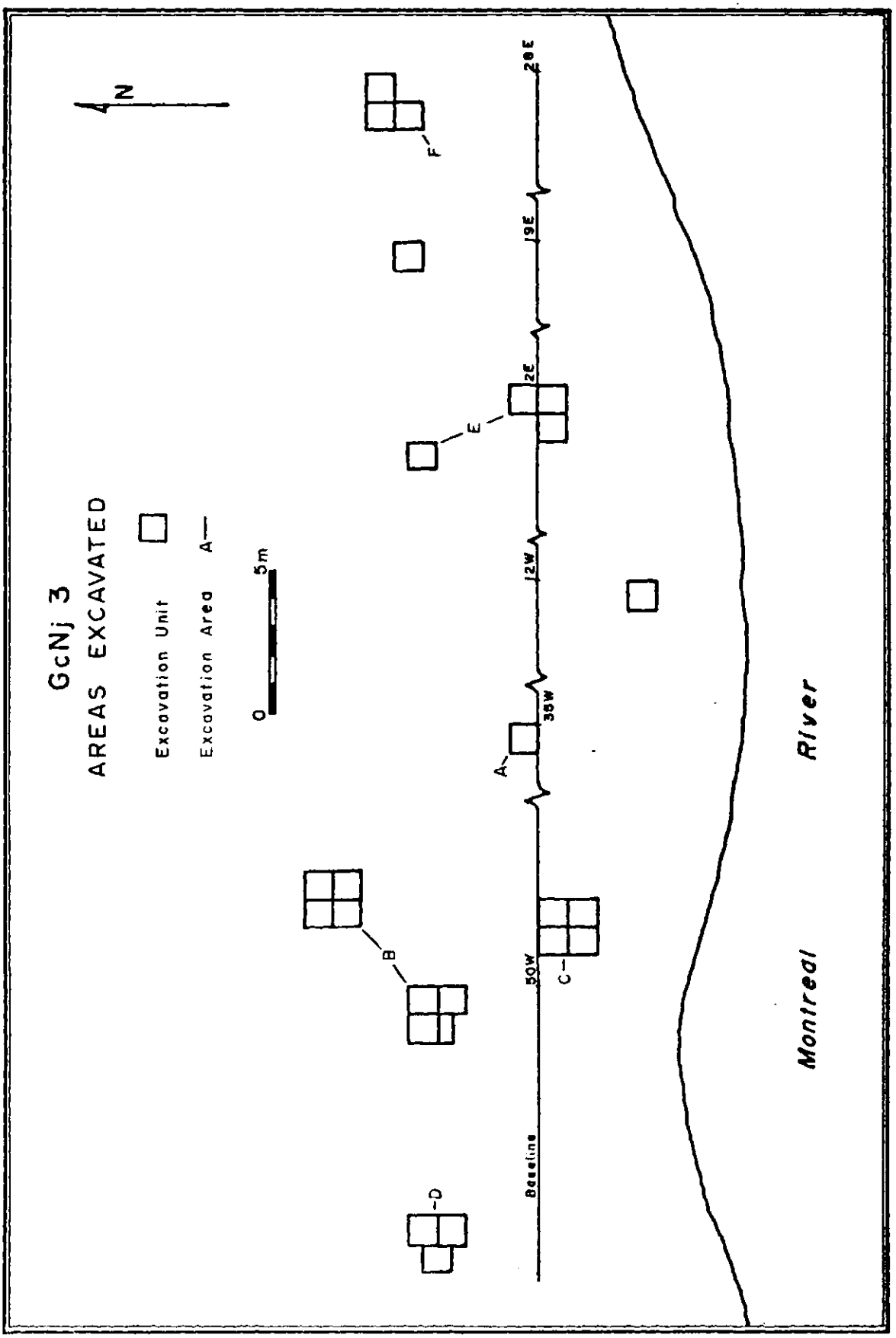


Figure 5. GcNj 3 Areas Excavated

occurred in the lower portions of the organic zones, extended through the Ahe and into the Ae soil zones. The association of the faunal remains to the prehistoric cultural materials was uncertain and they were not analysed. While few lithic remains were recovered from the Bt soil horizon, they were considered intrusive in an essentially sterile zone. The soil and parent materials were a sandy glacio-fluvial deposit. Table 27 summarizes the lithic collection from the site.

Table 27. GcNj 3 Artifact Summary

ARTIFACT CATEGORY		N	%
Projectile Points		2	0.41
Scrapers		14	2.89
Uniface		1	0.21
Large Bifaces		3	0.62
Biface Edge Tools		2	0.41
Bipolar Cores:	A-A	2	5.36
	P-P	2	
	P-A	2	
	R-P	8	
	R-A	7	
	R-R	5	
Detritus		437	90.10
	Total	485	100.00

Artifact Description

Projectile Points

There were 2 projectile points recovered from the site, including 1 of metamorphosed shale, and 1 of quartz. Both were complete and their metric attributes are given in Table 28.

Specimen No. 112 (Plate 3, c), of shale, was lanceolate in overall form with a convex body forming a sharp tip distally, and contracting towards the base from near the mid-point on the specimen. The base was slightly convex, but only slightly

thinned, and heavily ground. Bilateral grinding was manifested near the base, but not as heavily. Some slight smoothing also seemed evident all along both edges, which could have been the result of use-wear as a knife. If so, the artifact may not actually represent a projectile point. A consideration of the attributes relating to proportions, dimensions, raw material, and the heavy basal grinding suggested that the artifact was not a Plano type of projectile point. This specimen was considered unidentified as to type.

Specimen No. 396 (Plate 3, d), of quartz, was triangular in overall form with convex body sides and a slightly convex base. Although the specimen had been thinned, it remained very thick near the base. Grinding of the lateral and basal edges was absent. The overall formal and metrical attributes did not indicate a diagnostic projectile point type, as triangular points sometimes occurred in Plains and boreal forest components at different temporal periods.

Table 28. GcNj 3 Projectile Point Metric Attributes

SPECIMEN NO.	LENGTH	WIDTH	THICKNESS
112	74.6	24.0	7.6
396	28.9	18.9	7.8

Scrapers

There were 14 scrapers recovered from this site including 8 of quartz, and 6 of chert. The metric attributes of these scrapers appear in Table 29. All specimens were considered complete.

Scrapers of Quartz

On all 8 quartz scrapers the distal working edge was convex, although partly broken away on 1 (264) specimen. Two scrapers (264, 369) had an additional working edge located laterally, and irregularly straight in form. One scraper (450) had been worked bilaterally, with both edges convex in form. One specimen (435) (Plate 3, e) had a width dimension greater than the length. One scraper (27) appeared made on a flake blank with striking platform located right laterally and bulb of percussion dorsally. There were 5 scrapers (27, 271, 281, 400, 435) that evidenced shatter marks, battering and hinge fracturing to various degrees on areas not associated with the working or scraping edge. On 1 specimen (435) these attributes occurred bilaterally, indicative that the original blank form had been produced by bipolar core reduction, resulting in a 'wedge' type preform. On the remaining specimens, these scarring characteristics occurred singly and were located proximally on 3 specimens (27, 271, 400), and laterally on another (281). All specimens were intermediate in form.

Scrapers of Chert

On all 6 chert scrapers, the distal working edge was convex in form. One specimen (298) was also worked bilaterally, on convex edge forms. There was 1 specimen (387) with a width dimension greater than the length. Three of the scrapers (38, 332, 414) appeared made on flake blank forms. Two of these (38, 332) had striking platforms originally located distally but removed by working edge retouch, and bulbs of percussion were located ventrally. Specimen No. 414 (Plate 3, f) had the striking platform

located proximally and bulb of percussion ventrally. None of the chert scrapers showed marks considered indicative of bipolar stone working. There were 4 specimens (38, 332, 387, 414) expanding in form towards the distal edge, 1 specimen (32) was intermediate in form and 1 specimen (298) was contracting in form towards the distal end.

Table 29. GcNj 3 Scraper Metric Attributes

	LENGTH	WIDTH	THICKNESS	MIN. E.	MAX. E.
Minimum	14.5	11.2	5.1	56°	76°
Maximum	44.2	36.2	18.8	90°	130°
Sx	332.9	275.9	116.5	1266	1737
x	23.8	19.7	8.3	70°	91°
Median	21.5	20.3	7.0	69°	90°
N	14	14	14	18	19

Uniface

There was a single uniface (384), of chert, recovered from the site. The metric attributes of this specimen are given in Table 30. The specimen had 1 working edge, located laterally, and was straight in form. The artifact was formed by edge retouching of a flake blank, with striking platform located proximally and bulk of percussion ventrally. Overall form was expanding towards the distal end.

Table 30. GcNj 3 Uniface Metric Attributes

SPECIMEN NO.	LENGTH	WIDTH	THICKNESS
384	19.5	12.7	2.7

Large Bifaces

There were 3 large bifaces of quartz recovered from the site. The metric attributes of these specimens are given in Table 31.

All of these specimens were considered complete or nearly so.

There was 1 large biface (1) which had 2 working edges, located bilaterally, and fairly straight in form. One of the edges on this specimen was worked unifacially only, while the other edge was worked bifacially. There was one (1) large biface (386 - Plate 3, a), which had 3 working edges, located distally and bilaterally, and all were convex in form. The third large biface (24 - Plate 3, b), had 4 working edges, located proximally, distally, and bilaterally. All of the edges were convex in form. One of the bifaces (1) appeared made on a flake blank with striking platform located proximally and bulb of percussion ventrally. The other 2 large bifaces were made on indeterminate blank forms. On 1 specimen (386) some slight battering was evident proximally. There was 1 large biface (1) rectanguloid in overall form and expanding towards the distal end, 1 specimen (24) was ovate in overall form, and 1 specimen (386) was discoidal in overall form.

Table 31. GcNj 3 Large Biface Metric Attributes

SPECIMEN NO.	LENGTH	WIDTH	THICKNESS
1	55.5	54.4	18.5
24	61.2	32.6	13.7
386	57.6	58.4	21.6

Biface Edge Tools

There were 2 biface edge tools, of chert, recovered from the site. The metric attributes of these specimens are given in Table 32.

One of the biface edge tools (391) was characterized by fine bifacial retouch which formed a convex working edge, located

distally. The other specimen (410) had 3 working edges, located distally and bilaterally, and all were convex in form. Some battering was evident proximally on 1 of the specimens (391), which suggested modification from a blank produced by the bipolar knapping method. On the other specimen there was no evidence of battering and the blank type was indeterminate. The overall forms of both specimens were expanding towards the distal end.

Table 32. GcNj 3 Biface Edge Tool Metric Attributes

SPECIMEN NO.	LENGTH	WIDTH	THICKNESS
391	32.1	28.1	8.4
410	44.8	25.0	9.0

Bipolar Cores

There were 26 cores recovered, which included 18 of quartz, 7 of chert, and 1 of quartzite. The metric attributes of these specimens are summarized in Table 33. All 6 varieties of bipolar core were represented.

Table 33. GcNj 3 Bipolar Core Metric Attributes

		A-A	P-P	P-A	R-P	R-A	R-R
LENGTH	Minimum	30.7	21.7	22.9	16.1	17.5	19.7
	Maximum	34.6	21.7	34.9	39.2	39.2	58.0
	Sx	65.3	42.7	57.8	197.2	185.8	175.0
	x	32.6	21.3	28.9	24.6	26.5	35.0
	Median	32.6	21.3	28.9	27.6	28.3	38.8
WIDTH	Minimum	19.6	9.1	13.2	10.6	11.8	19.0
	Maximum	30.0	12.8	16.0	20.2	28.8	31.7
	Sx	49.6	21.9	29.2	118.4	146.0	122.0
	x	24.8	10.9	14.6	15.4	20.5	25.3
	Median	24.8	10.9	14.6	15.4	20.3	25.3
THICKNESS	Minimum	18.3	4.5	6.0	6.2	4.0	5.8
	Maximum	21.5	6.8	12.7	13.4	14.7	16.9
	Sx	39.8	11.3	18.7	73.7	65.5	53.8
	x	19.9	5.6	9.3	9.2	9.3	10.7
	Median	19.9	5.6	9.3	9.3	9.3	11.3
	N	2	2	2	8	7	5

Pottery

The potsherds recovered in excavation from GcNj 3 were fairly small fragments and key portions were lacking for a satisfactory description of even 1 vessel rim. The total excavated sample included 41 bodysherds and 2 rimsherds. On the basis of exterior surface treatment, paste characteristics, and dispersal pattern, the potsherds recovered appeared to represent 6 vessels.

Vessel 1

Paste: In the few sherds which represented this vessel, there was no evidence that the paste had been tempered. The texture was fine to medium and the interior surface was smooth. The exterior surface was characterized by large fabric impressions. The weft impressions were 5.0 to 7.0 mm in length and 2.0 to 2.5 mm in width. After these impressions had been made, the surface was slightly smoothed over.

Decoration: There was no evidence of punctates, but this was not surprising as the size of the rimsherd fragments was small.

Form: The lip was slightly rounded and smooth.

Vessel 2

Paste: The paste was sparsely tempered with crushed granite from 0.5 to 2.0 mm in size. The texture was fine to medium and the interior surface had been smoothed. The fabric impressions on the exterior surface of this vessel were similar in pattern and form to those on vessel 1, but were smaller in size. The length of the weft impressions varied from 2.5 to 4.1 mm, and the width ranged from 0.8 to 1.3 mm. Slight smoothing occurred following impression.

Decoration and Form: There were no rimsherds found with this vessel.

Vessel 3

Paste: The paste had been sparsely tempered with crushed quartz from 0.5 to 5.8 mm in size. The texture was medium and the interior surface was uneven but smooth. The fabric impressions on the exterior of this vessel were irregular in depth, length, width, and pattern orientation. The pocked, irregular depressions were not measured, and the subsequent smoothing had not diminished the rough aspect of the surface.

Decoration: There were no rimsherds found with this vessel but 2 bodysherds evidenced punctates along broken edges. These punctates appeared to be circular and were about 2.5 mm in diameter. The punctate spacing was about 9.0 mm, center to center.

Vessel 4

This vessel was based on a single large bodysherd and 4 smaller fragments.

Paste: The paste copiously tempered with crushed quartz and crushed granite which ranged from 0.8 to 4.9 mm in size. The texture was medium and the interior surface was rough, irregular and unsmoothed. The exterior surface appeared very heavily smoothed and did not evidence discernable fabric impressions.

Vessel 5

Paste: The paste was copiously tempered with crushed granite which ranged from 0.5 to 6.3 mm in size. The texture was medium and the interior surface was smooth. The distinctive characteristic of

this vessel was that it lacked an impressed exterior surface, which was as smooth as the interior surface.

Decoration and Form: No rimsherds were found with this vessel.

Vessel 6

The existence of a sixth vessel in the sample was based mainly on the proposition that, lacking distinctively diagnostic characteristics, distributional separation could be significant in determining the existence of additional pottery vessels. The split bodysherd representing this vessel varied in temper attributes from the nearest vessels described above (Vessels 1, 2, 5). Only the interior surface of this sherd was present. This was a smoothed surface with slight striae and fine-medium texture. Tempering was not present in this fragment.

Cultural Configurations

Lithic Remains

The lithic artifacts from GcNj 3 did not evidence an even distribution (Fig. 6). There was artifact clustering represented in Area 'C', and tentative artifact clustering could be suggested for Areas 'D' and 'F'. Although the artifact sample was fairly small, the distribution of each artifact class was plotted to determine if class clustering was apparent.

Scrapers were the most numerous artifact class represented at the site and they also showed a broad distribution (Fig. 7). There did appear to be some clustering of scrapers, however, in area 'C', where 7 scrapers were recovered. The 3 scrapers from square 49 N,

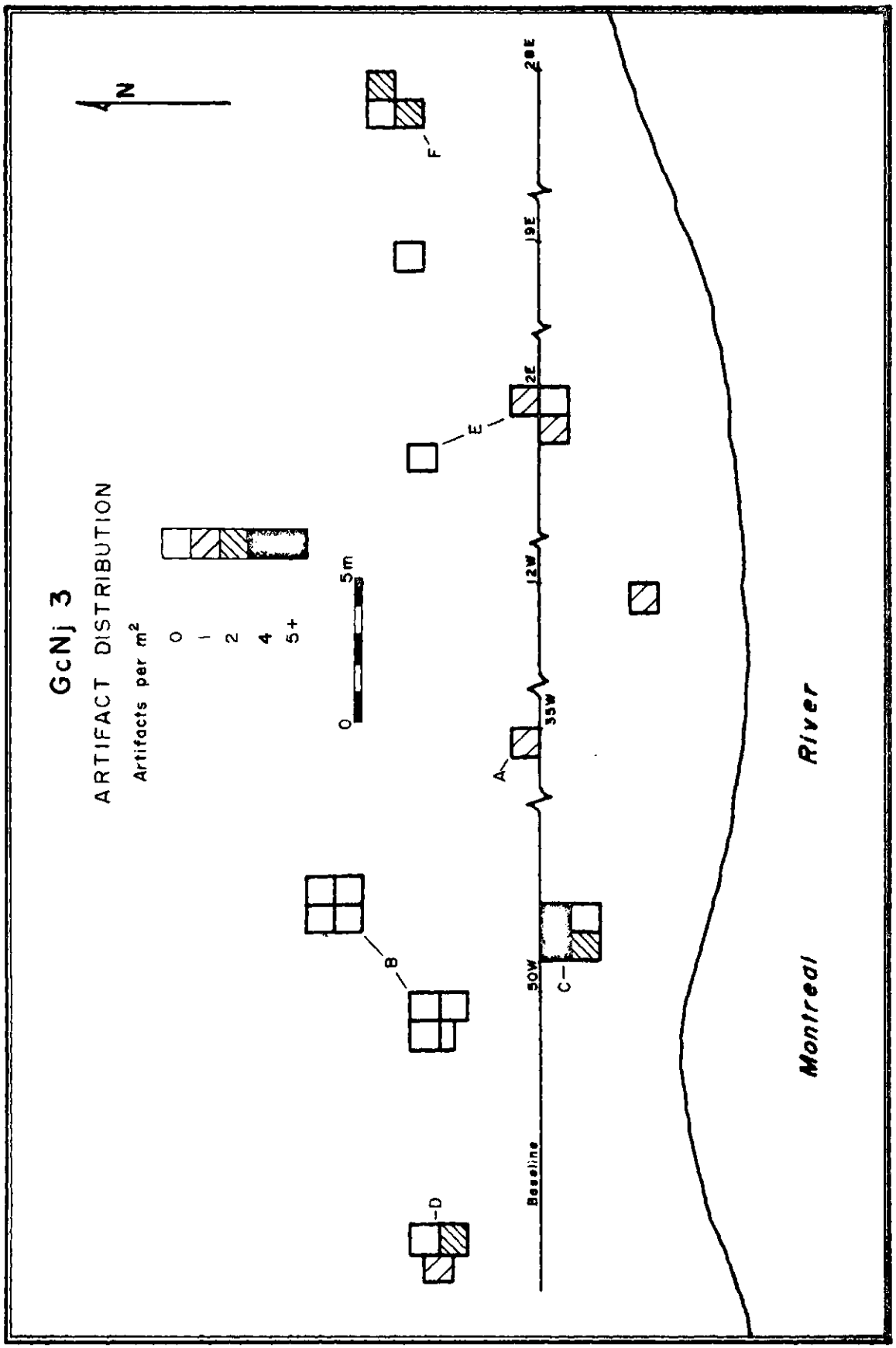


Figure 6. GcNj 3 Artifact Distribution

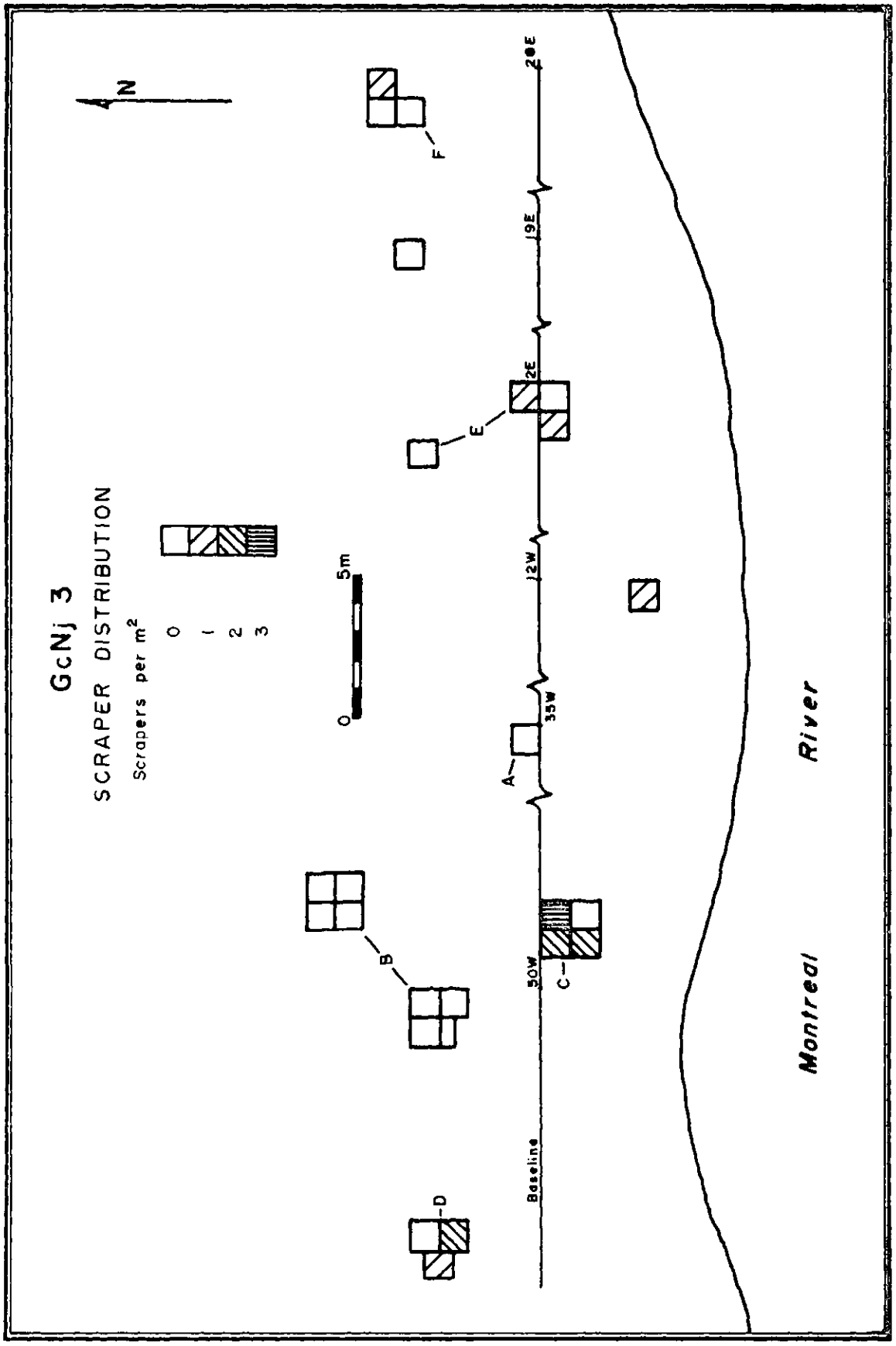


Figure 7. GcNj 3 Scraper Distribution

47 W, were observed during excavation to form an associational grouping.

None of the other artifact classes, with the possible exception of projectile points, were found to occur as distinct groupings or clusters. The 2 projectile points were recovered from adjacent squares in area 'C' (Fig. 8), but direct association could not be established. The large bifaces and biface edge tools (Fig. 9) clearly had a dispersed distribution, although large bifaces and biface edge tools together may be associative, as tentatively indicated by areas 'C' and 'F'.

Figure 10 shows the distributional pattern evidenced by the bipolar cores recovered from the site. Considering all varieties of bipolar cores together, some clustering occurred in area 'C', where a total of 11 bipolar cores representing 5 varieties were recovered.

The detritus from the site is represented by Figure 11. Again, clustering in area 'C' was apparent. There also appeared to be some clustering, but to a lesser degree, in some individual meter-units.

Pottery

The distribution of the 6 pottery vessels approximated a dispersal pattern represented in Figure 12. The location of these vessels was determined on the assumption that quantities of potsherds and their localized distribution were prime factors relating to the provenience of the vessels.

Area 'A' consisted of a single 1 m square, and all of the potsherds recovered from this area could be separated into 2 vessels

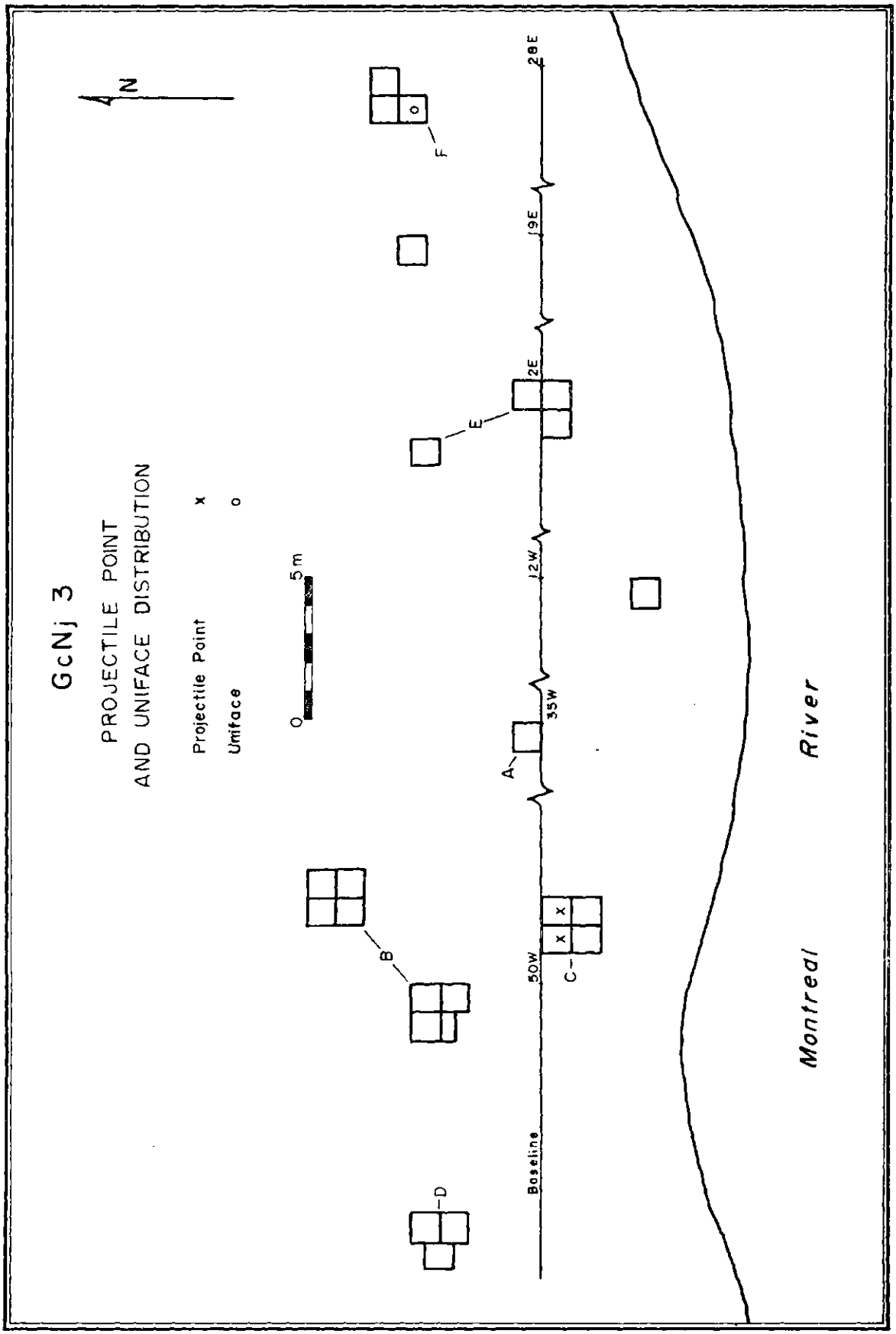


Figure 8. GcNj 3 Projectile Point and Uniface Distribution

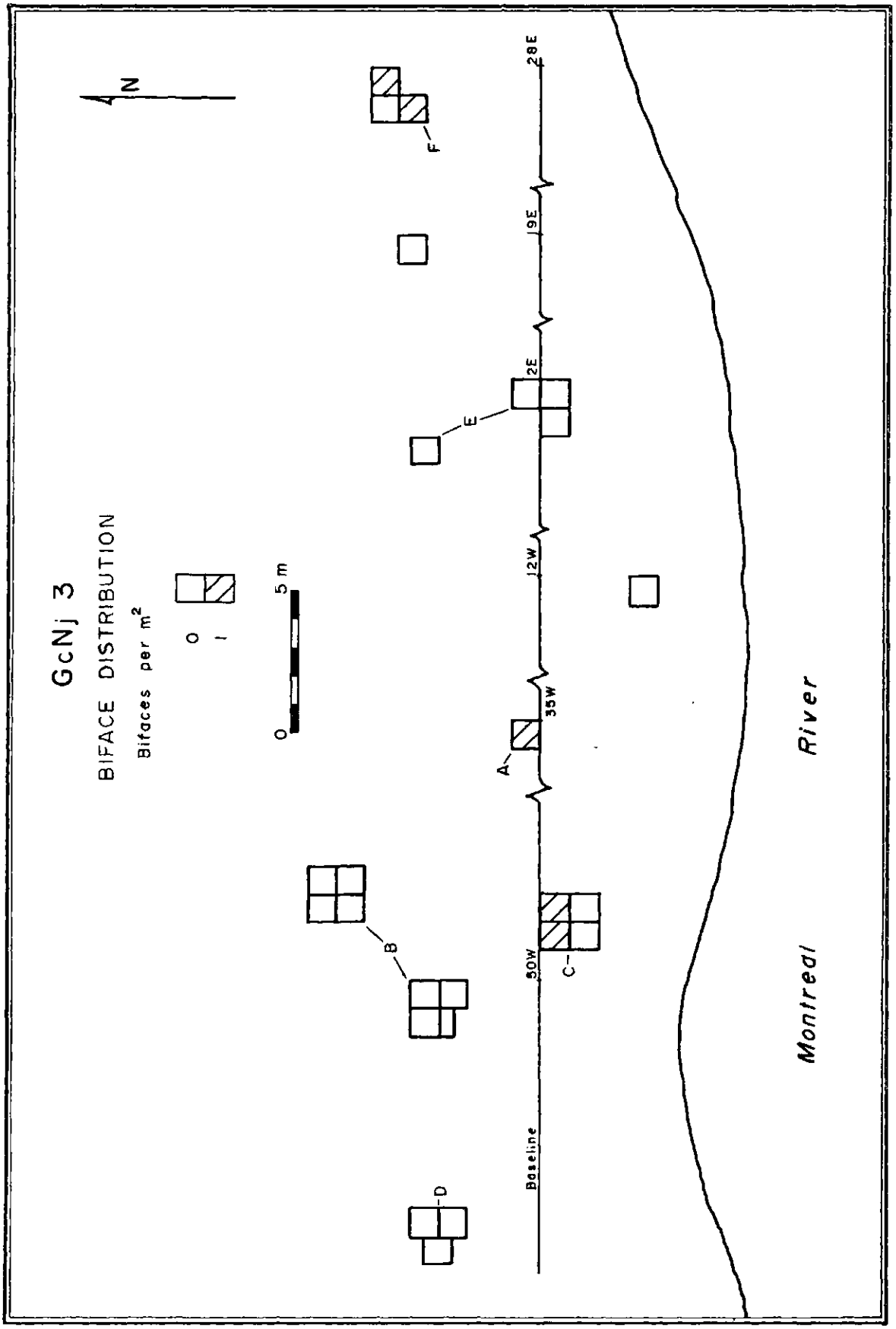


Figure 9. GcNj 3 Biface Distribution

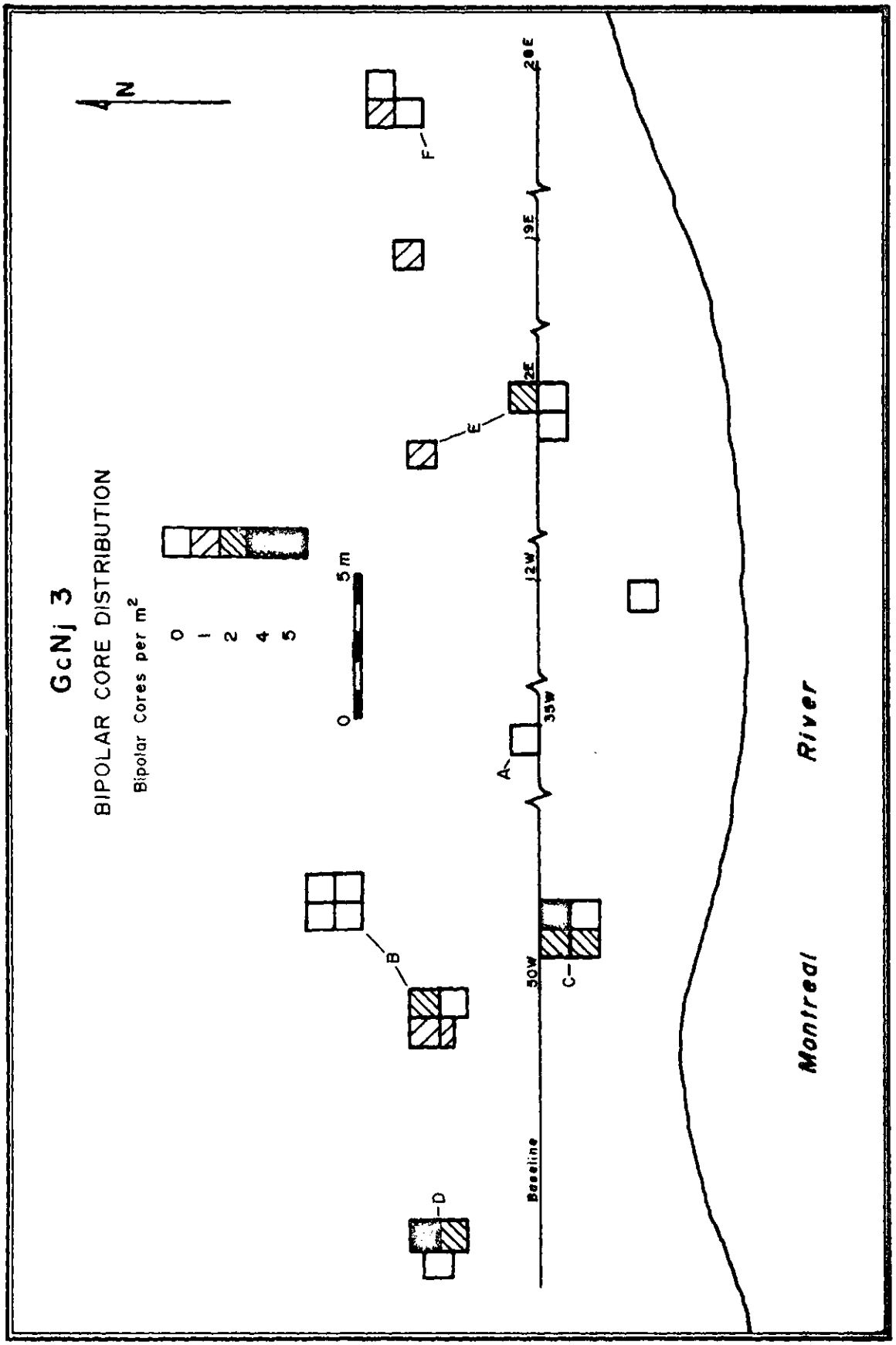


Figure 10. GcNj 3 Bipolar Core Distribution

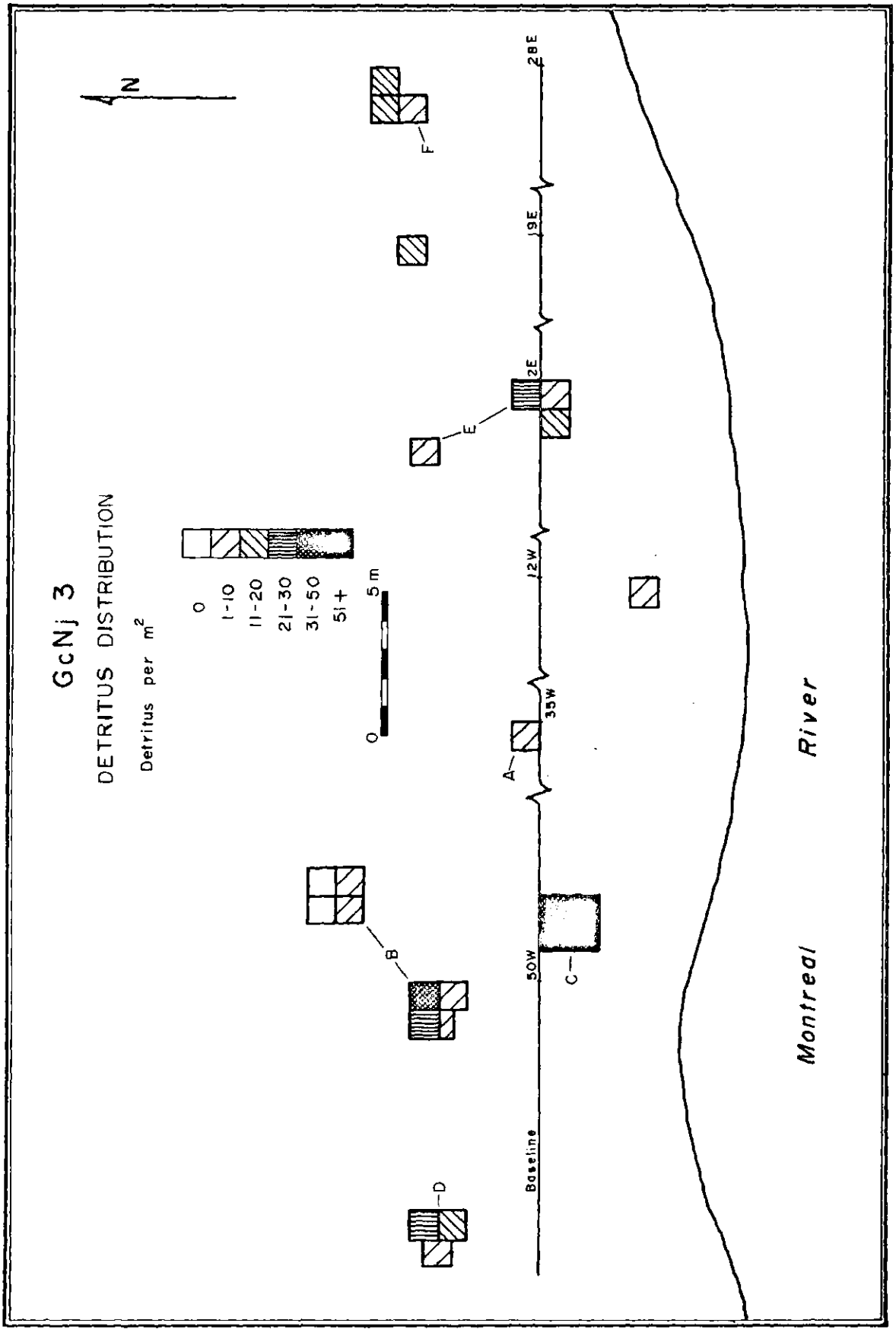


Figure 11. GcNj 3 Detritus Distribution

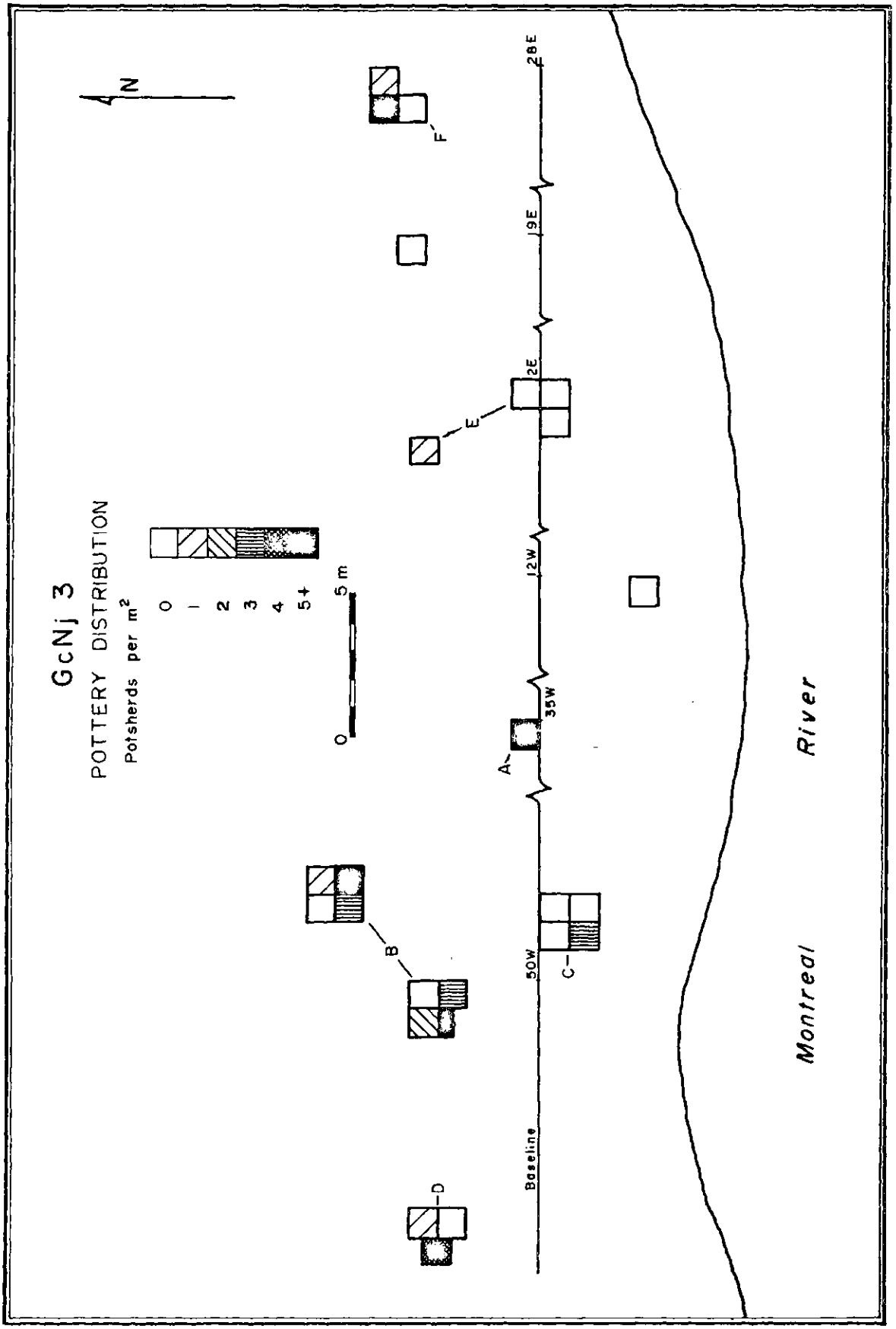


Figure 12. GcNj 3 Pottery Distribution

only, and were described as vessels 1 and 2.

Area 'B' consisted of 7.5 square meters divided into 2 blocks. The pottery recovered from these squares appeared to represent at least a single vessel (No. 3), which was approximately evenly distributed between the 2 blocks constituting area 'B'.

Area 'C' yielded only 3 potsherds of such fragmentary condition that it could not be determined if they represented an additional vessel or were sherds scattered from vessels found in adjacent areas.

Area 'D' consisted of 3 square meters and yielded potsherds representing a single vessel (No. 4).

There were 2 additional pottery vessels (No. 5 and 6) recovered from areas 'F' and 'E' respectively. All of the sherds from area 'F' appeared to relate to the single vessel described.

Conclusions

Considering the number of square meters excavated, the total quantity of material culture recovered was relatively small in comparison to the other sites. The paucity of these remains, and their associational and stratigraphic contexts suggested a single component site. The lithic artifacts were not originally considered of diagnostic value, but gained in significance because of their association with pottery. The attributes of the described pottery correlated to Hlady's (1971: 7, 8) definition of Clearwater Lake Punctate type of Winnipeg Fabric-Impressed Ware. Unfortunately, the rimsherd fragments recovered were all small, but given the possibility of punctates (vessel 3), these specimens would correspond to Hlady's basic mode (Hlady 1971:8). If lacking

in punctates these specimens would constitute a mode not represented in Hlady's data. Assuming that the proposed association of Clearwater Lake Punctate type pottery to the Woodland Cree (Hlady 1971: 19) was a valid one, the described material culture of GcNj 3 was considered to date to the late prehistoric period as an expression of Woodland Cree occupation.

Given a small material culture inventory from the site, it was difficult to assess the validity of an apparently unequal distribution pattern of materials across the site. Conclusions reached in regard to observations made, then, should be regarded as tentative but testable statements.

The distribution of potsherds and pottery vessels on the site appeared to be independent of the distribution of artifacts, and other lithic remains. On this basis it seemed possible to suggest that the pottery vessels did not play any significant role in relation to the activities to which the lithic remains pertained. As a corollary to this proposition, the activities to which the pottery vessels related were carried out on different parts of the site than lithic-related activities.

The distribution of lithic artifacts by class appeared to be significant only in regard to the scrapers, and was really evidenced only in 1 area of the site, area 'C'.

The distribution of bipolar cores, including the opposing ridge or 'wedge' variety, showed a general correlation to the distribution of detritus. This correlation was considered an indication that bipolar cores related to the stone working activities

of core reduction and blank formation. This interpretation was partly dependent upon the data recovered from the southern block of area 'B', which indicated an absence of artifacts, but a fair representation of bipolar cores and detritus.

Although many of the excavated units evidenced artifacts, detritus and potsherds to varying degrees of density, it was considered that only 1 clearly identifiable activity area was indicated (area 'C'). This area contained a cross-section of all artifact classes recovered from the site and also yielded a high frequency of other lithic remains. The cultural material recovered from this area, therefore, was considered representative of a range of activities carried out at a single locus. That is, the area did not relate to the performance of any 1 specific activity. A second and tentative activity area was represented by area 'F', where several artifacts, debittage and a pottery vessel may also have related to diverse activities.

The nature of cultural activities were difficult to determine and limited in interpretation because of the small and sporadic test excavations. Nevertheless, spatial configurations of lithic and pottery remains were isolated and were considered representative of site habitation by the Woodland Cree during the late prehistoric period.

5.7 SITE GcNj 7

This site is located 1.5 km south of Molanosa, on the east side of Montreal River (Fig. 3). This is a small site which occupied an area of short, narrow, high ground that formed the tip

of a small peninsula jutting into Montreal River. During years of high water levels, as in 1973, this site was not threatened by erosion, but became a small island in the river. Vegetation on the site consisted mainly of poplar and saskatoon bushes. On the N-W end of the site, a small clearing supports a variety of grasses, rosebushes and raspberries.

Historic occupation of the site was evident on the surface with the presence of 2 cabin foundations. A few historic objects were also found on the surface. A few pits were evident and appeared to represent the major disturbances of the site.

A total of 42 square meters were excavated on this site (Fig. 13). Historic objects, faunal remains, pottery and modified lithic remains were recovered. Historic materials were broadly distributed across the site and were found on the surface and in the leaf mold and the Ahe soil horizons. In the Ahe soil horizon there appeared to be considerable mixing of historic materials with lithic artifacts and potsherds. Most of the faunal remains were also found to occur from the surface to the lower Ahe soil zone. As this distribution was similar to that of the historic materials, the faunal remains were considered to relate to the historic period and were not identified. The lithics and the potsherds were encountered most frequently in the Ae soils zone. Few lithic remains were collected from the Bt soil horizon. The soil zones were not clearly separable in many areas of the site and suggested past disturbances. The soil base was a fine sandy deposit, probably glacio-fluvial in origin. The lithic collection from the site is summarized in Table 34.

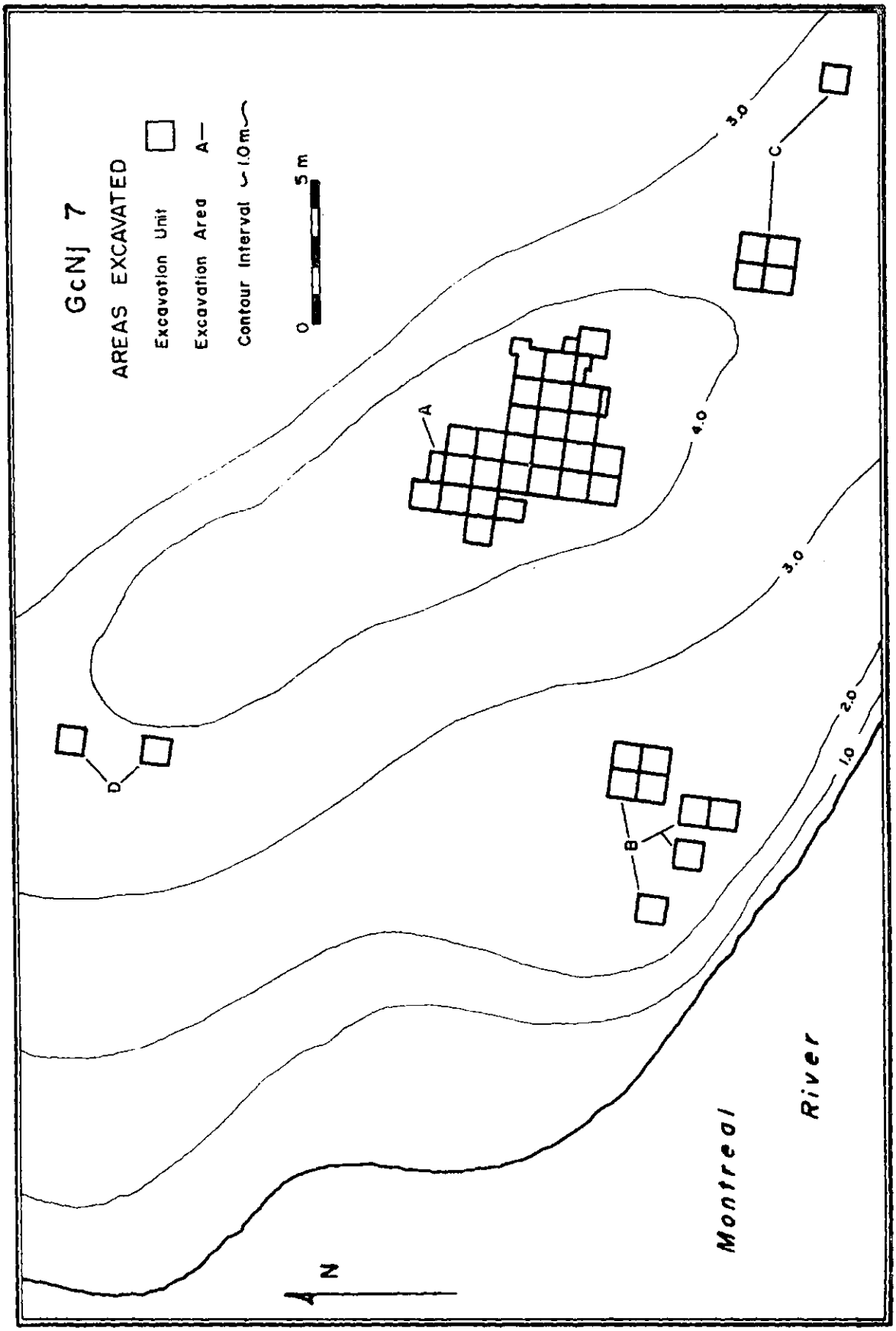


Figure 13. GcNj 7 Areas Excavated

Table 34. GcNj 7 Artifact Summary

ARTIFACT CATEGORY		N	%
Projectile Points		7	0.79
Scrapers		29	3.26
Unifaces		8	0.90
Large Bifaces		2	0.22
Small Bifaces		3	0.34
Biface Edge Tools		2	0.22
Biface Fragments		11	1.24
Drill		1	0.11
Pipe Fragment		1	0.11
Ground Slate Object		1	0.11
Netsinker		1	0.11
Bipolar Cores:	A-A	1	1.46
	P-P	2	
	P-A	2	
	R-P	2	
	R-A	2	
	R-R	4	
Detritus		811	91.12
	Total	890	99.99

Artifact Description

Projectile Points

The projectile point class consisted of 7 specimens. Only 1 specimen was considered complete. The remaining 6 fragmentary points could be divided into 3 groups according to the nature of the breaks. Three points had portions of both body and base remaining, 2 point tips extended to the shoulders, and 1 point fragment consisted of a basal area and a side-notch. The available metric attributes of these specimens are given in Table 35.

Table 35. GcNj7 Projectile Point Metric Attributes

SPECIMEN NO.	L.	W.	T.	S.W.	B.W.	N.W.	N.D.	N.H.
100	-	21.4	6.7	-	-	-	-	-
116	33.7	20.7	6.5	13.0	14.0	-	-	8.5
200	-	-	-	8.7	12.6	-	-	5.6
256	-	-	7.6	-	17.8	-	-	-
370	-	21.9	7.6	17.6	19.2	-	-	9.0
575	-	18.7	6.2	11.6	-	-	-	-
627	-	17.2	5.4	9.5	-	-	-	-

Specimen No. 200 (Plate 4, a), of chert, was a split fragment also missing the tip and body edge portions. Because of these breakages, body edge form was indeterminable. Shoulders were sloping and the stem shape was side-notched. The side-notches were rounded and unground. The base was straight and had been thinned, but was unground. Morphologically, these attributes showed affinity to the late prehistoric small side-notched types of projectile point.

Specimen No. 100 (Plate 4, b), of quartz, was broken below the shoulders. This specimen had convex sides and sloping shoulders. Below the shoulders, a portion of the stem remaining appeared ground. The specimen was too incomplete and remained unidentified typologically.

Specimen No. 116 (Plate 4, c), of quartz, was considered complete. The triangular body had 1 straight edge, but the other was slightly convex. One shoulder was fairly straight and the other sloping. Corner-notches were asymmetrical with 1 notch rounded and broader than the other, but both were unground. The base was slightly concave and had been thinned, but was unground. Due to the asymmetry of the attributes, the specimen was difficult to

classify typologically, but the general morphological pattern was considered to compare to the Hanna projectile point type.

Specimen No. 370 (Plate 4, d), of quartz, was lacking the tip portion of the artifact. Body sides were convex and shoulders were sloping. The stem was broad in proportion to the overall width and could be termed shallow side-notched or expanding stemmed. Grinding of the stem edges was present. The base was straight and had been thinned and ground. The available attributes of this specimen were not very compatible with any specific projectile point type, with a possible affinity to the Duncan projectile point type considered tentative.

Specimen No. 627 (Plate 4, e), of chert, was broken both proximally and distally. Body edges were straight, and both shoulders were acute-angled, or barbed in form. Stem form was corner-notched, and the 1 complete notch was round, deep, and ground. The base was missing due to breakage, but other attributes were considered sufficiently diagnostic to classify this specimen as representative of the Pelican Lake type.

Specimen No. 575 (Plate 4, f), of quartz, was broken below the shoulders. Body sides were convex. One shoulder was straight and the other sloping. Stem form appeared notched with large, rounded, and unground notches. The specimen was incomplete and remained unidentified typologically.

Specimen No. 256 (Plate 4, g), of quartz, consisted of a basal fragment and 1 remaining side or corner-notch. The notch was rounded and had been ground. The base was convex, and had been

thinned and well ground. The specimen was incomplete and remained unidentified typologically.

Scrapers

There were 29 scrapers recovered from this site including 12 of quartz, 14 of chert, 1 of fused shale, 1 of granite, and 1 of petrified wood. The metric attributes of these scrapers are given in Table 36. Several scrapers were broken and the length and width dimensions of 2 quartz scrapers (409, 574) were not recorded, and neither was the length dimension of 1 chert specimen (682). The only formal attribute noted from these specimens was that the distal working edge was convex in form.

Table 36. GcNj 7 Scraper Metric Attributes

	LENGTH	WIDTH	THICKNESS	MIN. E.	MAX. E.
Minimum	10.4	11.0	2.6	45°	64°
Maximum	50.0	33.6	18.3	78°	118°
Sx	591.5	530.9	212.1	2340°	3204°
x	22.8	19.7	7.3	65°	89°
median	20.2	18.9	7.1	65°	90°
N	26	27	29	36	36

Scrapers of Quartz

One quartz scraper (236) had a straight working edge, but the others had convex working edges, and all were located distally. There were 4 scrapers with an additional working edge, located laterally. On 2 scrapers (107, 559) this edge was convex in form, and on the other 2 specimens (418, 380) the lateral working edge was fairly straight. There were 3 specimens (73, 559, 571) with width dimensions greater than length dimensions. None of the scrapers evidenced manufacture on flake-form blanks. Five of the

scrapers (73, 107, 156, 380, 559) retained battering characteristics and shatter marks suggestive of heavy crushing or compression forces which were taken as indicators of the bipolar stone working method. This was particularly the case of 1 specimen (73) on which these attributes occurred bilaterally. On the remaining specimens these scarring characteristics occurred proximally on 3 specimens (107, 156, 380), and laterally on 1 specimen (559). There were 6 scrapers (156, 429, 418, 380, 571, 653) expanding in form towards the distal end, 3 specimens (107, 236, 559) were intermediate in form, and 1 scraper (75) was contracting in form towards the distal end.

Scrapers of Chert

On all 14 chert scrapers, the distal working edge was convex in form. There were 2 scrapers with an additional working edge located laterally, 1 of which (232) was convex, and the other (437) was slightly incurvate. There were 2 scrapers (145, 165) with 2 additional working edges, located bilaterally, and all of these were fairly straight in edge form. There were 4 specimens (145, 184 232, 474) with a width dimension greater than that of the length dimension. Six scrapers appeared to have been made on flake blanks. The striking platform was located proximally on 5 of these specimens (145, 220, 404, 437, 450), but was heavily crushed on 1 specimen (404), and all had bulbs of percussion located ventrally. There were 2 scrapers (238, 715) which retained shatter characteristics possibly indicative of the bipolar technique, but on both specimens these attributes occurred singly and were located proximally. There were

7 scrapers (145, 165, 238, 404, 437, 450, 474) expanding in form towards the distal edge, and 6 scrapers (165, 184, 220, 232, 481, 715) were intermediate in form.

Scrapers of Miscellaneous Materials

The scraper of fused shale (326) had a convex working edge, located distally, and had a width dimension greater than the length. There were no characteristics present to indicate the original blank form. Overall form was irregular.

The scraper of granite (426) had a convex working edge, located distally. An additional working edge was located laterally, and was irregularly straight in form. Both edges were slightly denticulate. The original blank form was indeterminate but overall form was expanding towards the distal working edge.

The scraper of petrified wood (714) had a convex working edge, located distally. An additional working edge was located laterally, but on the alternate (ventral) surface, and was straight in form. The original blank form was indeterminate but overall form was expanding towards the distal end.

Unifaces

The uniface class was represented by 8 specimens including 3 of quartz, and 5 of chert. Although several specimens were broken to varying degrees, all metric attributes were recorded and are summarized in Table 37.

Unifaces of Quartz

There was 1 uniface (26-Plate 5, a) with a convex, denticulate working edge located laterally. There were 2 unifaces (148, 290)

with 2 working edges. On 1 of the specimens (148) these edges occurred distally and laterally, and both were straight in form and rounded at the corner juncture. On the other uniface (290) the 2 working edges occurred bilaterally, with 1 edge straight in form and the other edge concave in form. All 3 unifaces appeared characterized by edge retouch. The original blank forms of these specimens were indeterminate. Two of the unifaces (26, 148) were intermediate in form and 1 uniface (290) was contracting in form towards the distal end.

Unifaces of Chert

There were 3 unifaces which had a single working edge located laterally. On 1 specimen (353) this edge was straight, on another (673-Plate 5, b) this edge was convex and denticulate, and on the third specimen (329) this edge was convex only. There were 2 unifaces (105, 378) with 2 working edges and these occurred bilaterally on both specimens. On 1 of these unifaces (378) both edges were convex, and on the other specimen (105) 1 edge was convex and the other edge was concave. All of these unifaces were characterized by edge retouch only. There were 3 unifaces (105, 329, 378) which appeared to be made on flake blanks with striking platforms located proximally. Two of these specimens (105, 378) had bulbs of percussion located ventrally, and the third specimen (329) had the bulb of percussion located dorsally. There was 1 uniface (673) which retained some shatter marks on the proximal and distal ends, suggestive of possible blank formation by the bipolar stone working method. The overall

form of all these unifaces was considered intermediate.

Table 37. GcNj 7 Uniface Metric Attributes

	LENGTH	WIDTH	THICKNESS
Minimum	22.3	14.1	4.6
Maximum	41.0	35.7	14.3
Sx	240.0	186.5	59.7
x	30.0	23.3	7.5
Median	28.1	21.3	7.1
N	8	8	8

Large Bifaces

There were 2 large bifaces, of quartz, recovered from the site. Although the proximal end of 1 specimen (149) was slightly broken, the metric attributes of both specimens are given in Table 38. One of the large bifaces (149) had 2 working edges, located bilaterally, and convex in form. The other artifact (394) had 3 working edges, located distally and bilaterally, and slightly convex in form. Both specimens were made on indeterminate blank forms, although 1 specimen (394) was heavily battered dorsally and proximally. One of the large bifaces (149) was ovate-pointed in overall form, and the other specimen (394) was rectanguloid in overall form.

Table 38. GcNj 7 Large Biface Metric Attributes

SPECIMEN NO.	LENGTH	WIDTH	THICKNESS
149	58.9	30.8	11.3
394	53.2	41.4	21.4

Small Bifaces

This sub-class was represented by 3 specimens including 2 of quartz and 1 of chert. The metric attributes of these specimens are given in Table 39. Two of the specimens (102, 650) appeared to be

broken proximally and the third (449) was complete.

Small Bifaces of Quartz

One of the small bifaces (650 - Plate 5, f), had 2 working edges, located bilaterally, and convex in form. The other specimen (102 - Plate 5, d) had 3 working edges, located distally and bilaterally. On this specimen, 1 of the lateral edges was straight in form, while the other working edges were convex. The convex edges of this specimen were also slightly serrated or denticulate in form. One of the small bifaces (650) was ovate-bi-pointed in overall form, and the other specimen (102) was expanding in form towards the distal end.

Small Biface of Chert

This specimen, No. 449 (Plate 5, e), had 2 convex working edges, located bilaterally. This artifact had a hafting element that consisted of a contracting stem off-set from the central axis of the specimen. The base was convex in form and had been thinned, but was unground. The overall form of the specimen was consequently asymmetrical ovate-pointed.

Table 39. GcNj 7 Small Biface Metric Attributes

SPECIMEN NO.	LENGTH	WIDTH	THICKNESS
102	26.7	18.1	6.9
449	27.0	15.4	5.8
650	25.4	12.8	7.3

Biface Edge Tools

There were 2 biface edge tools recovered, including 1 of chert, and 1 of shale. Both artifacts were considered complete and their metric attributes are given in Table 40.

Biface Edge Tool of Chert

This specimen (240) had a single working edge, located laterally, which was slightly convex in form. The artifact appeared to have been modified on a flake blank with striking platform located proximally and bulb of percussion ventrally. Overall form was intermediate.

Biface Edge Tool of Shale

This artifact (343) had a single working edge, located laterally, which was sinuous in form. The artifact was produced by edge retouch on a flake blank form with striking platform located proximally and bulb of percussion ventrally. The overall form was contracting towards the distal end.

Table 40. GcNj 7 Biface Edge Tool Metric Attributes

SPECIMEN NO.	LENGTH	WIDTH	THICKNESS
240	40.3	31.3	10.8
343	62.0	26.5	12.6

Biface Fragments

There were 11 biface fragments recovered, including 5 of quartz and 6 of chert. There were 2 quartz specimens (575, 580), and 2 chert specimens (215, 565) which appeared to represent projectile point or small biface tips.

Drill

This small quartz artifact (654) was missing the distal or bit end. Thinning occurred proximally to facilitate hafting and considerable use-wear was evident on the lateral edges. The widest part of the drill was at the proximal end. Longitudinal section was bi-convex, and the cross-section form was rounded-quadrilateral.

The metric attributes of this specimen are given in Table 41.

Table 41. GcNj 7 Drill Metric Attributes

SPECIMEN NO.	LENGTH	WIDTH	THICKNESS
654	-	9.0	7.0

Pipe Fragment

A pipe bowl fragment, No. 104 (Plate 5, c), appeared made of a brown slate. The overall form was semi-spheroidal. Circular indentations below the rim appeared decorative and reminiscent of the impressions found on Clearwater Lake Punctate type pottery. This specimen was similar to a more complete pipe bowl found at Southern Indian Lake in Manitoba (Margaret Hanna: 1974 personal communication). The metric attributes of this specimen are given in Table 42.

Table 42. GcNj 7 Pipe Bowl Metric Attributes

SPECIMEN NO.	OUTSIDE DIAMETER	DEPTH	THICKNESS
104	22.5	14.0	2.2

Object of Ground Slate

The ground slate object, No. 346 (Plate 5, g), was complete. This artifact was generally flat, ground overall and slightly asymmetrical. The function of the artifact was problematical. The metric attributes of this specimen are given in Table 43.

Table 43. GcNj 7 Ground Slate Metric Attributes

SPECIMEN NO.	LENGTH	WIDTH	THICKNESS
346	100.7	17.4	8.0

Netsinker

The netsinker was a large granite object which was

considered complete. This artifact was generally flat with 2 notches or grooves located near a corner and presumably made to facilitate a line attachment. Its function was inferred from size, weight, and overall form. The metric attributes of this specimen are given in Table 44.

Table 44. GcNj 7 Netsinker Metric Attributes

SPECIMEN NO.	LENGTH	WIDTH	THICKNESS
758	106.0	104.0	27.6

Bipolar Cores

There were 13 bipolar cores recovered, including 9 of quartz, 3 of chert and 1 of quartzite. The metric attributes of this sub-class are given in Table 45. All 6 varieties of bipolar core were represented. The relative frequencies of raw materials represented, according to variety were: opposing ridge - 2 quartz, 2 chert, 1 quartzite; ridge opposed by area - 1 quartz, 1 chert; ridge opposed by point - 1 quartz, 1 chert; and the remaining varieties were represented by chert specimens.

Table 45. GcNj 7 Bipolar Core Metric Attributes

		A-A	P-P	P-A	R-P	R-A	R-R
LENGTH	Minimum		35.1	16.7	24.6	21.3	23.7
	Maximum	50.0	49.5	38.0	28.6	27.2	47.2
	Sx	50.0	84.6	54.7	53.2	48.5	122.7
	x		42.3	27.4	26.6	24.3	30.6
	Median		42.3	27.4	26.6	24.3	35.4
WIDTH	Minimum		21.5	11.6	10.7	11.0	15.1
	Maximum	22.9	28.4	14.3	25.7	25.2	50.5
	Sx	22.9	49.9	25.9	36.4	36.2	130.8
	x		25.0	13.0	18.2	18.1	32.7
	Median		25.0	13.0	18.2	18.1	32.8
THICKNESS	Minimum		9.3	6.5	9.2	5.8	4.7
	Maximum	19.1	11.5	14.8	12.9	10.2	25.3
	Sx	19.1	20.8	21.3	22.1	16.0	51.2
	x		10.4	10.7	11.1	8.0	12.8
	Median		10.4	10.7	11.1	8.0	15.0
N		1	2	2	2	2	4

Pottery

There were 5 rimsherds and 162 bodysherds recovered from the site. On the basis of rimsherd and body sherd differences, and potsherd distribution, it was considered that 3 vessels were represented.

Vessel 1

Paste: The paste appeared to be tempered by crushed granite and sand which ranged from 0.3 to 6.2 mm in size. The texture was medium to coarse, and sandy. The interior surface had been smoothed. The exterior surface had been fabric impressed, with weft impressions ranging from 3.4 to 4.8 mm in length and 1.6 to 1.8 mm in width. The surface had also been slightly smoothed.

Decoration: A row of circular punctates had been impressed on the exterior of the rim and formed raised bosses on the interior. The diameter of the punctates was 3.0 mm and they were spaced about 36.0 mm apart, center to center. These punctates occurred from 24.0 to 26.0 mm below the lip.

Form: The lip of the rimsherd was rounded and smooth. The shoulder of the vessel began to flare outwardly below the punctates at an angle of 145° to the rim. The shoulder had a width of about 20.0 mm and joined with the body of the vessel at an angle of 223°, again measured on the exterior side of the vessel.

Vessel 2

Paste: The paste had been tempered with crushed granite which ranged from 1.0 to 5.9 mm in size. The texture was fine to medium, and the interior surface had been smoothed. The exterior surface of

the vessel had been fabric-impressed, with weft impressions ranging from 4.8 to 6.7 mm in length and 1.0 to 1.8 mm in width. These impressions indicated that coarse fibre had been used to form an S-twist twine, which was used for the weft in the original fabric. The exterior surface had also been slightly smoothed.

Decoration: A single row of circular punctates was impressed from the exterior of the rim to form raised bosses on the interior surface. The diameter of the punctates was 6.9 mm. The spacing of the punctates was indeterminate, but over 33.0 mm, because No. 2 punctates occurred on the same rimsherd. The punctates occurred 34.0 mm below the lip.

Form: The lip of the rim was fabric-impressed and flattened. The shoulder of the vessel began to flare outwardly below the punctates at an angle of 112° to the rim. This shoulder had a width of 12.0 mm and joined the body of the vessel at an angle of 230°, measured on the exterior side of the vessel.

Vessel 3

Paste: The paste was copiously tempered with finely crushed granite and possibly sand, which ranged from 0.6 to 2.5 mm in size. The texture was medium and the interior of the vessel was smooth. The exterior surface had been impressed by a tightly woven fabric, with weft impressions from 2.4 to 3.1 mm in length and 1.2 to 1.8 mm in width. The exterior surface had subsequently been well smoothed.

Decoration and Form: There were no rimsherds found with this vessel.

Cultural Configurations

Lithic Remains

The scraper class of artifacts had the highest frequency of specimens represented, and also had a broad distribution (Fig. 14). The scraper class had a tendency to cluster, which centered in the northwestern part of area 'A'. A consideration of the formal and metrical attributes of the scrapers which constituted the clustering did not reveal that any scraper 'type' existed for that area.

The uniface class (Fig. 15) indicated that although unifaces occurred only in area 'A', they had a broad distribution in this area and were not significantly associated with the scraper clustering.

The biface class (Fig. 16) was also widely distributed, but specimens constituting 2 of the sub-classes seemed to evidence a slight tendency to cluster, and possibly to associate to each other and to the scraper class mentioned. The distribution of small bifaces and biface tip fragments is noted in regard to the northwestern part of area 'A'.

The distribution of miscellaneous artifacts, and projectile points (Figs. 17, 18) also did not appear to cluster significantly.

The bipolar cores recovered (Fig. 19) also evidenced a broad distributional range and did not appear associative with any specific artifact class.

Chipping debris was widely but not evenly distributed over the site (Fig. 20). Small areas where clusters of flakes and shatter occurred with notable density were considered identified as chipping stations.

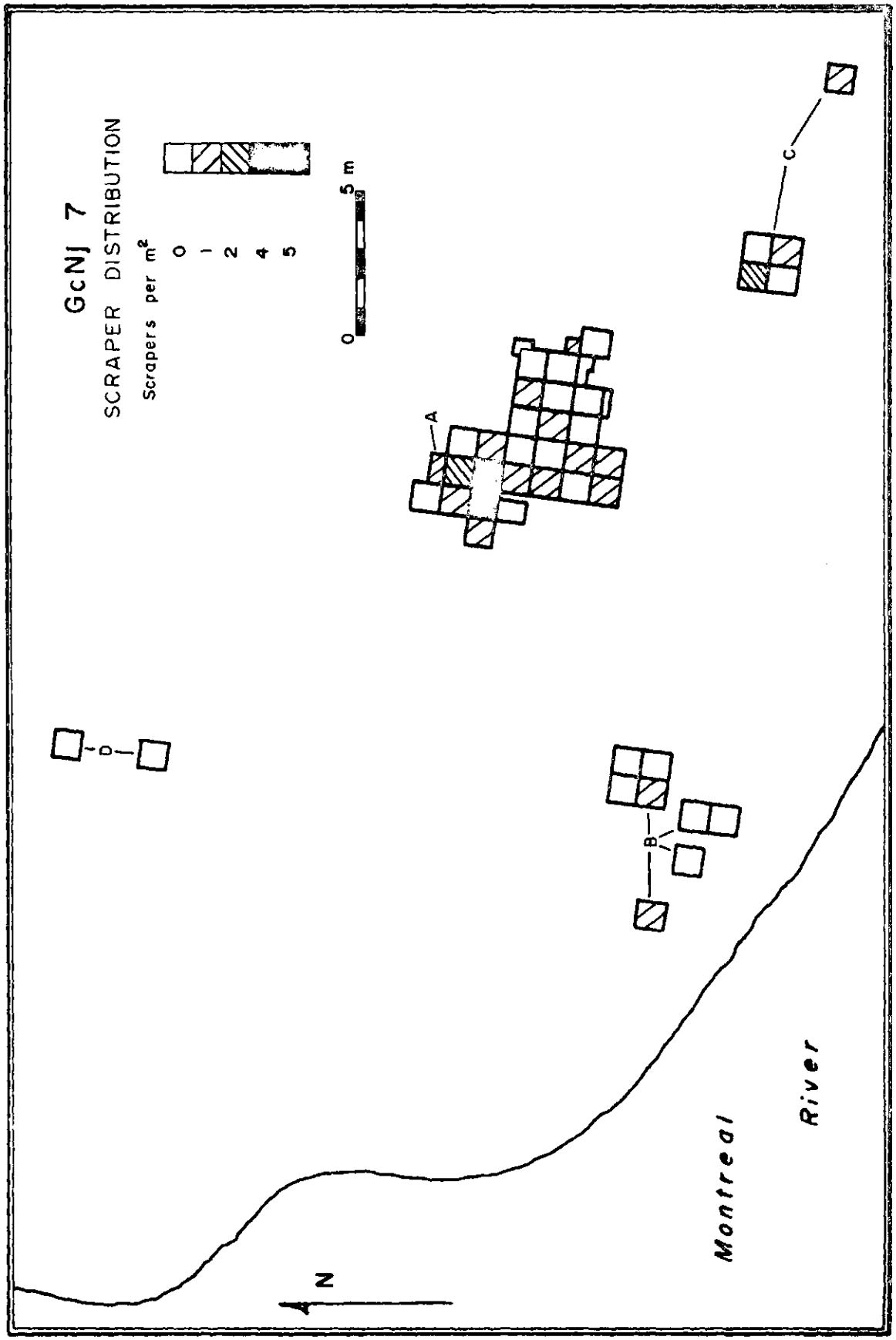


Figure 14. GcNj 7 Scraper Distribution

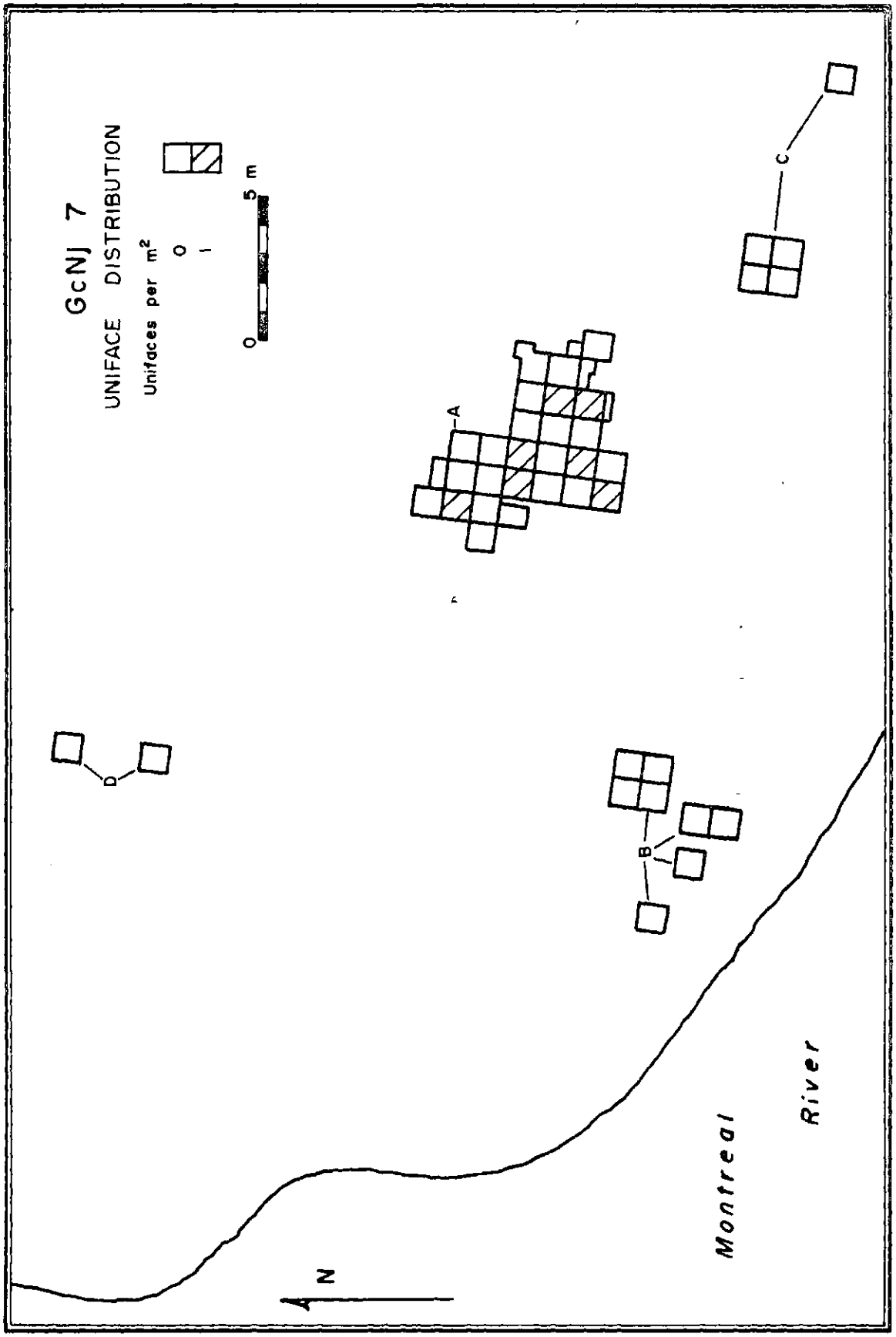


Figure 15. GcNj 7 Uniface Edge Tool Distribution

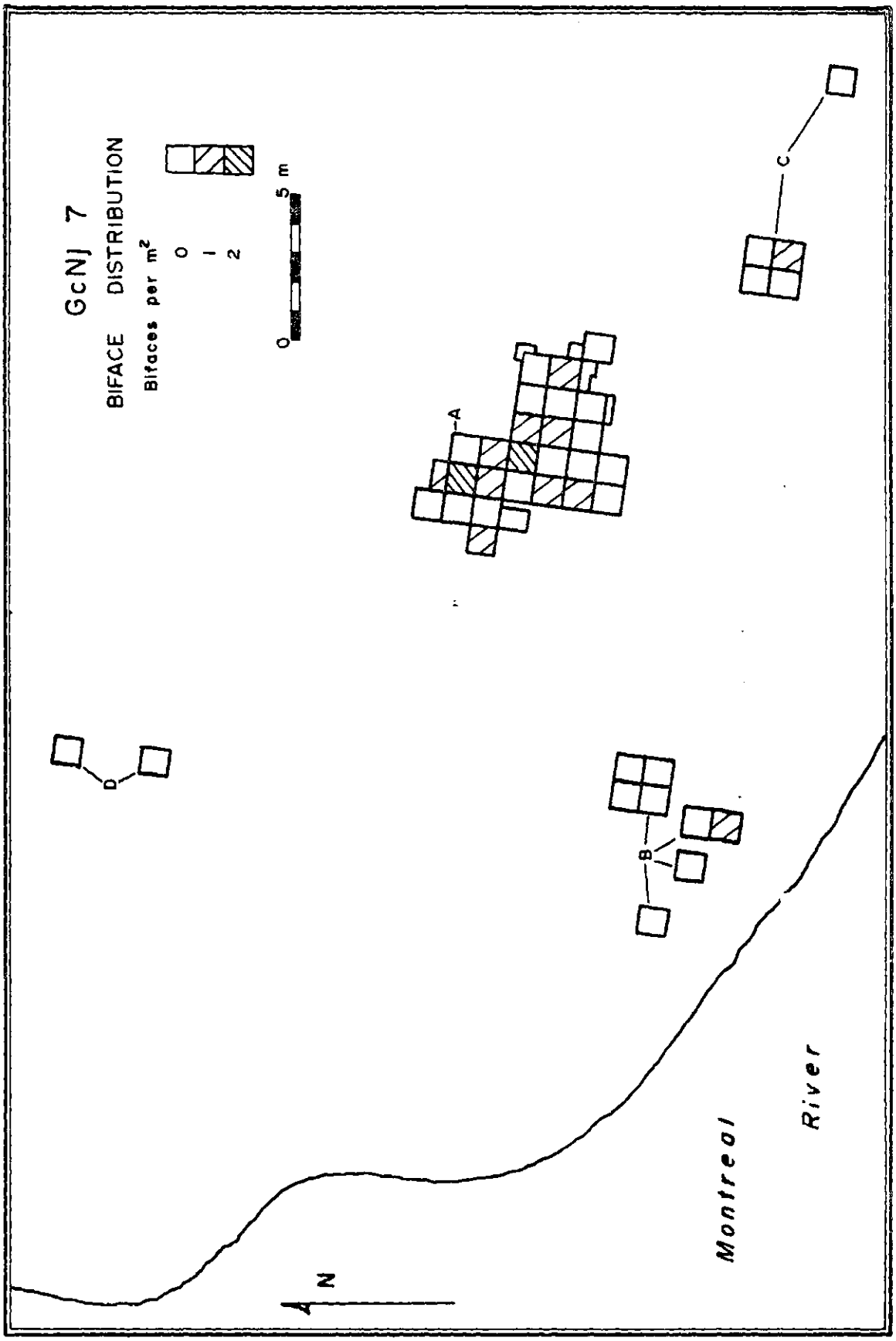


Figure 16. GcNj 7 Biface Distribution

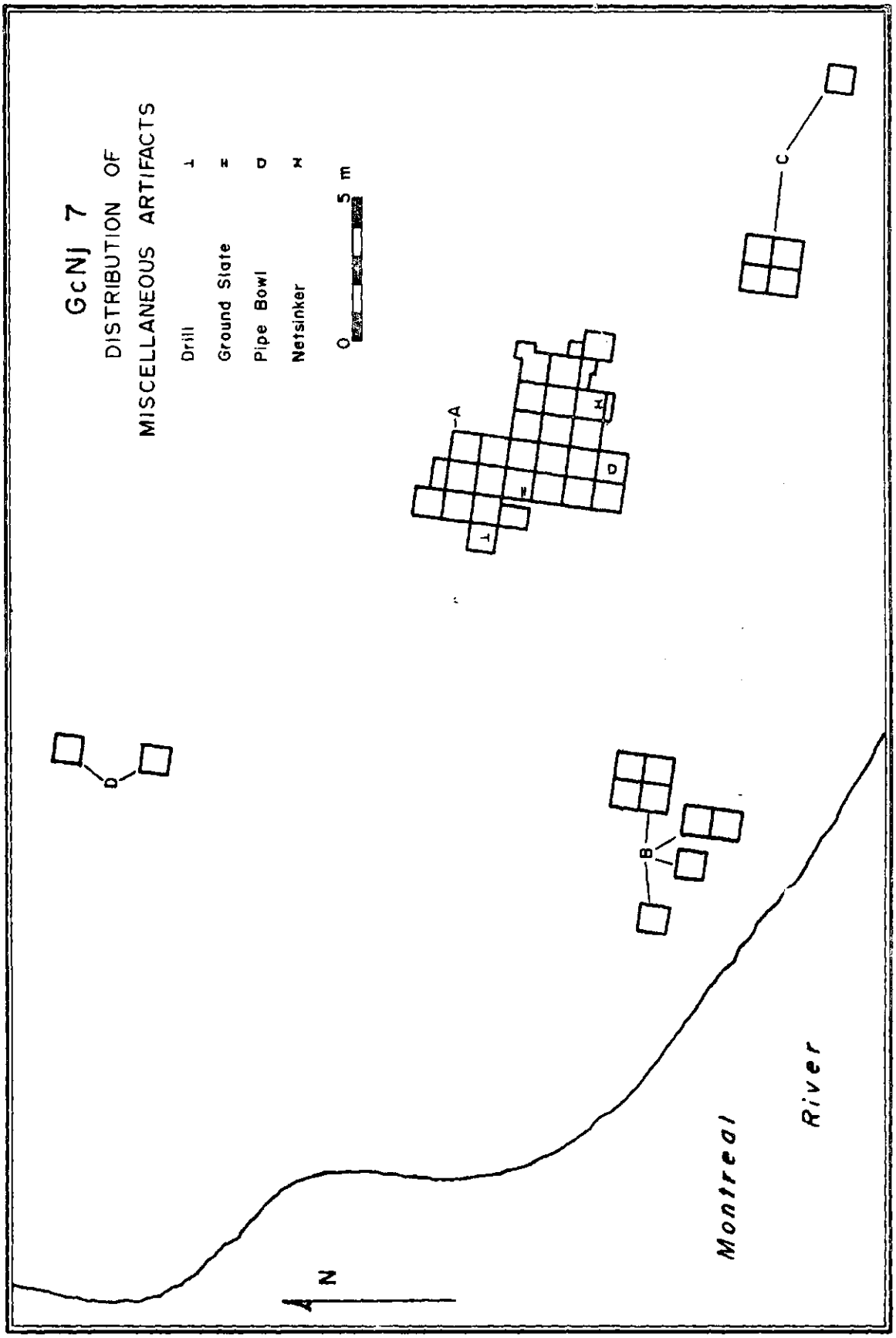


Figure 17 GcNj 7 Miscellaneous Artifact Distribution

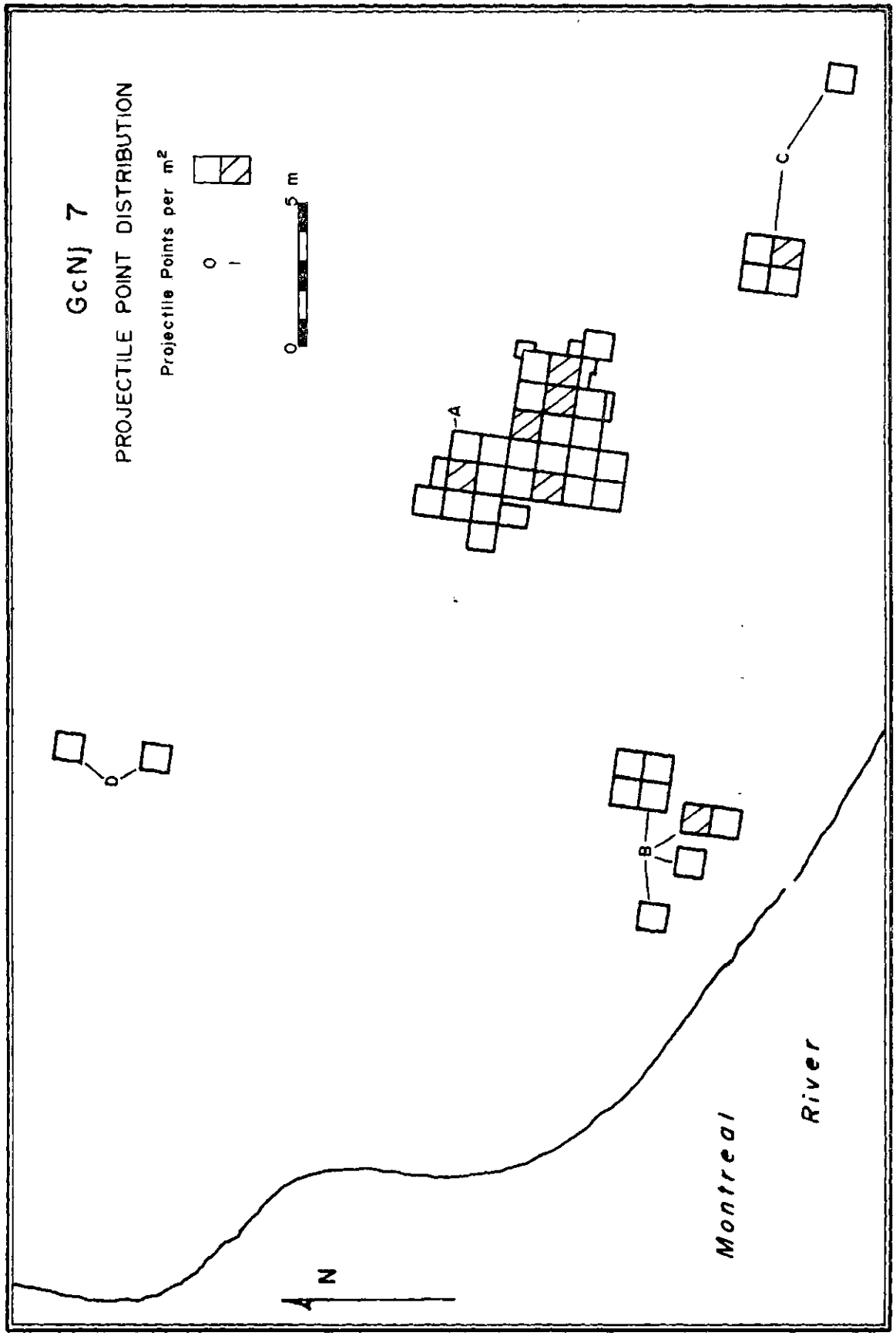


Figure 18. GcNj 7 Projectile Point Distribution

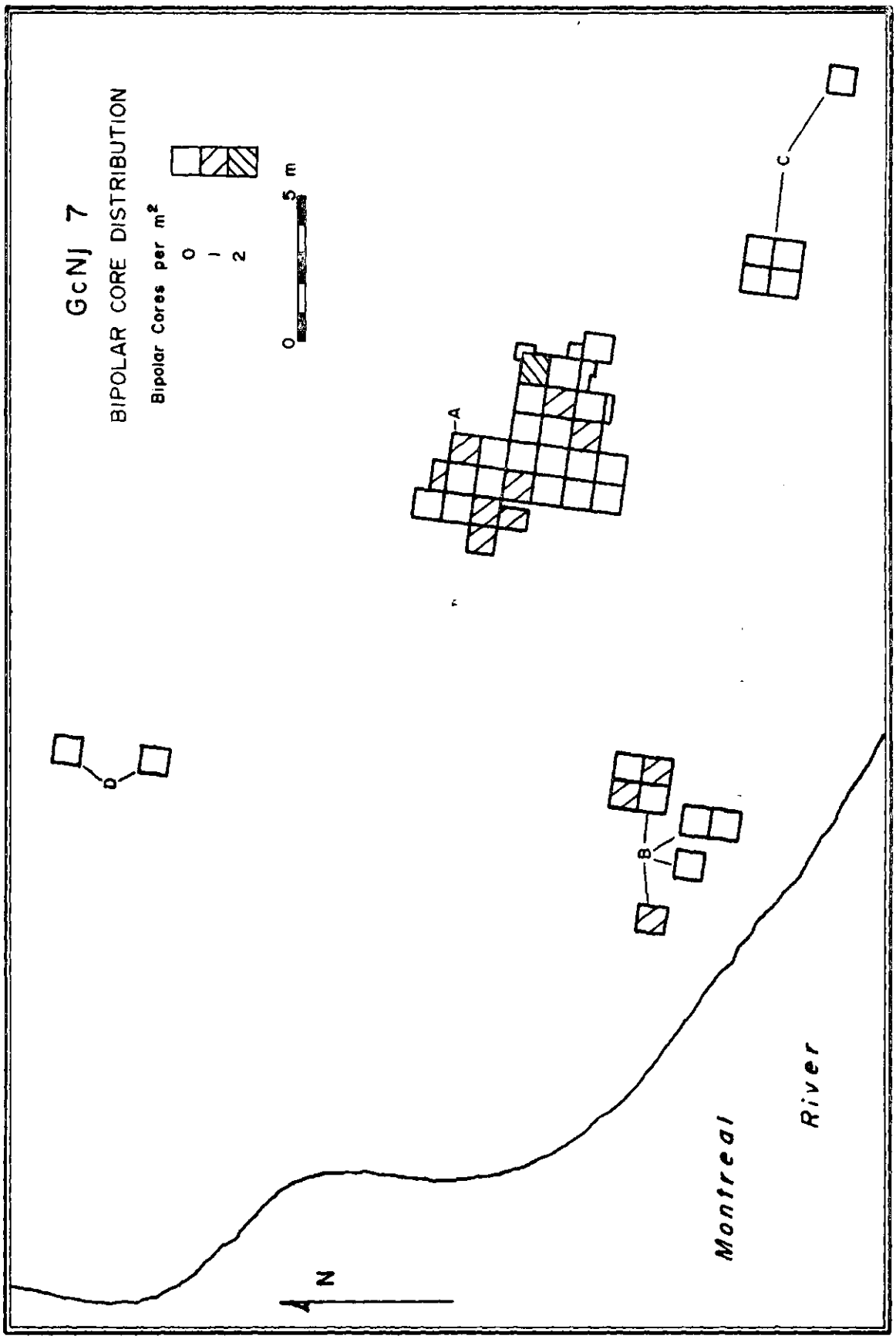


Figure 19. GcNj 7 Bipolar Core Distribution

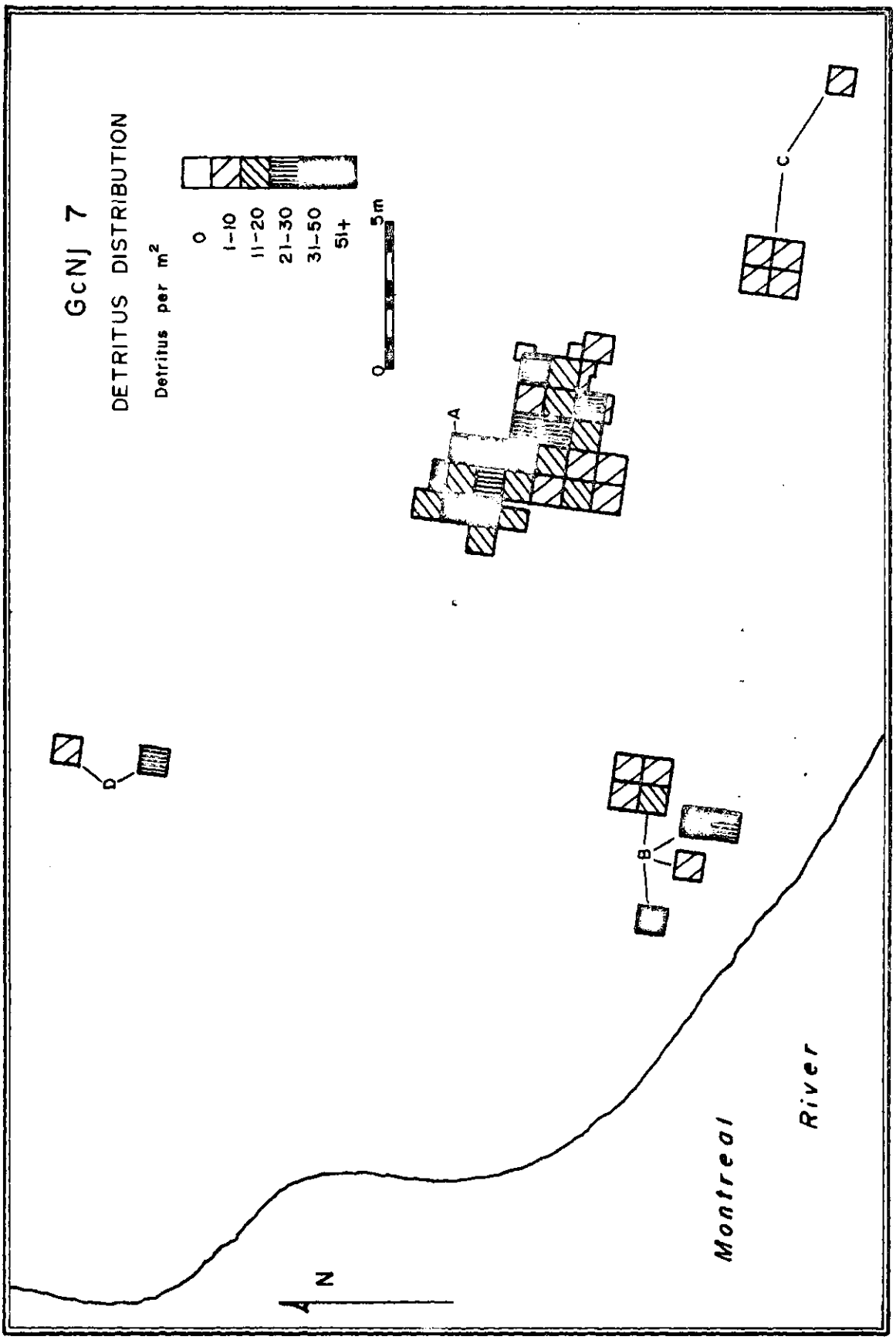


Figure 20. GcNj 7 Detritus Distribution

Pottery

The distribution of the 3 pottery vessels described was based on sherd concentrations and are shown in Figures 21 and 22.

Features

There were 2 hearth features, and both were found in area 'A' (Fig. 22).

Hearth 1

This hearth was not fully excavated, a small portion of the feature being left in the balk. The interpretation of this feature as a hearth was based on charcoal stained and blackened soil, which also contained small concentrations of charcoal. The hearth area was about 40 cm in diameter and irregular in plan view. The heaviest concentration of charcoal pitted and blackened sand extended about 10 cm in depth. No faunal remains or diagnostic artifacts were noted in association with this feature. Stratigraphically, the hearth appeared overlain by a natural soil development and appeared relatively undisturbed. Because of this stratigraphic situation, the hearth was considered potentially datable to an earlier occupation period of the site, although this period remained undefined.

Hearth 2

This feature was also not fully excavated. Although the hearth was characterized by small fragments of bone, burnt bone, and charcoal stained soil, there was insufficient material for a radiocarbon date. The distribution of smaller bone fragments was fairly widespread, but the area of largest concentration covered an approximate horizontal

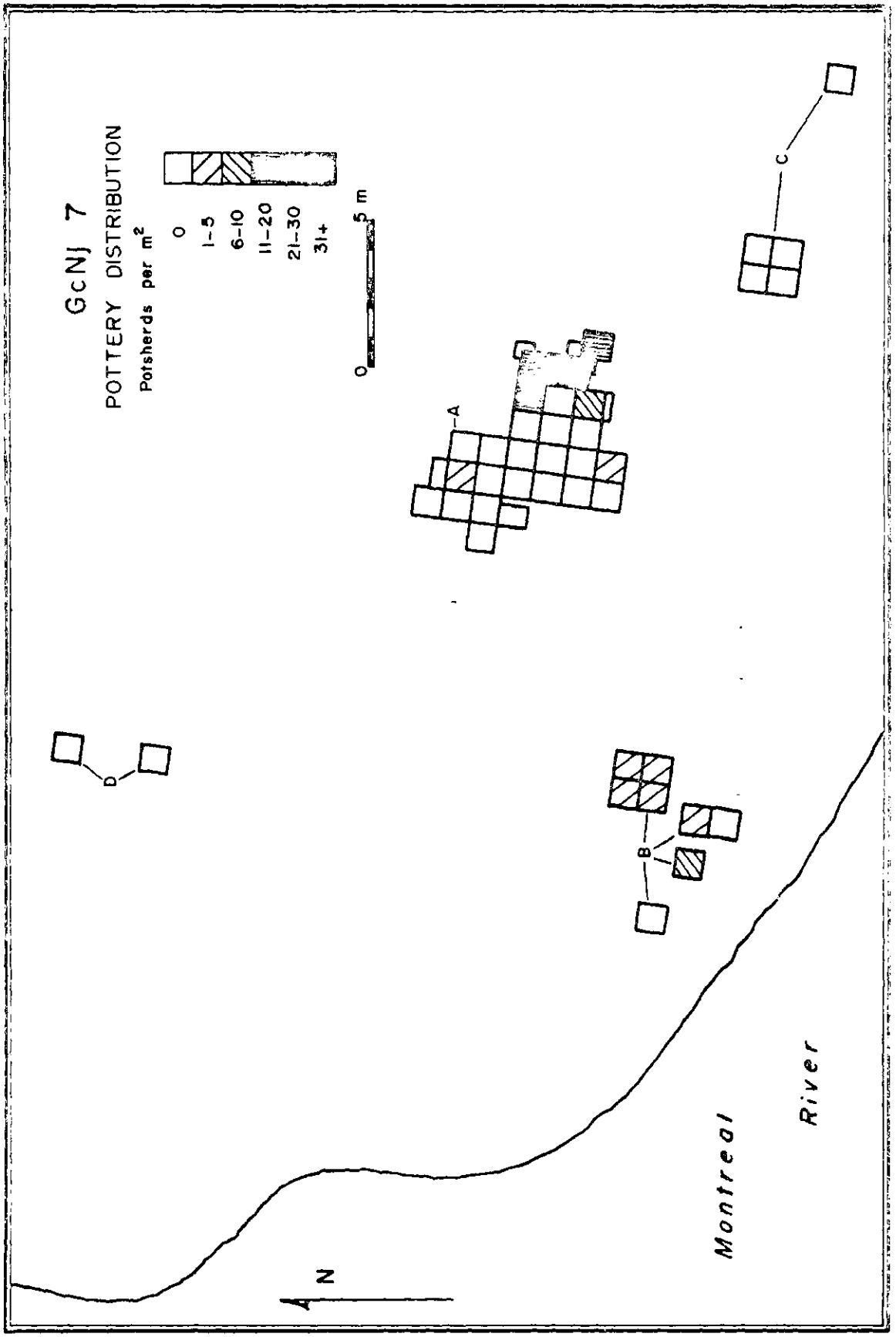


Figure 21. GcNj 7 Pottery Distribution

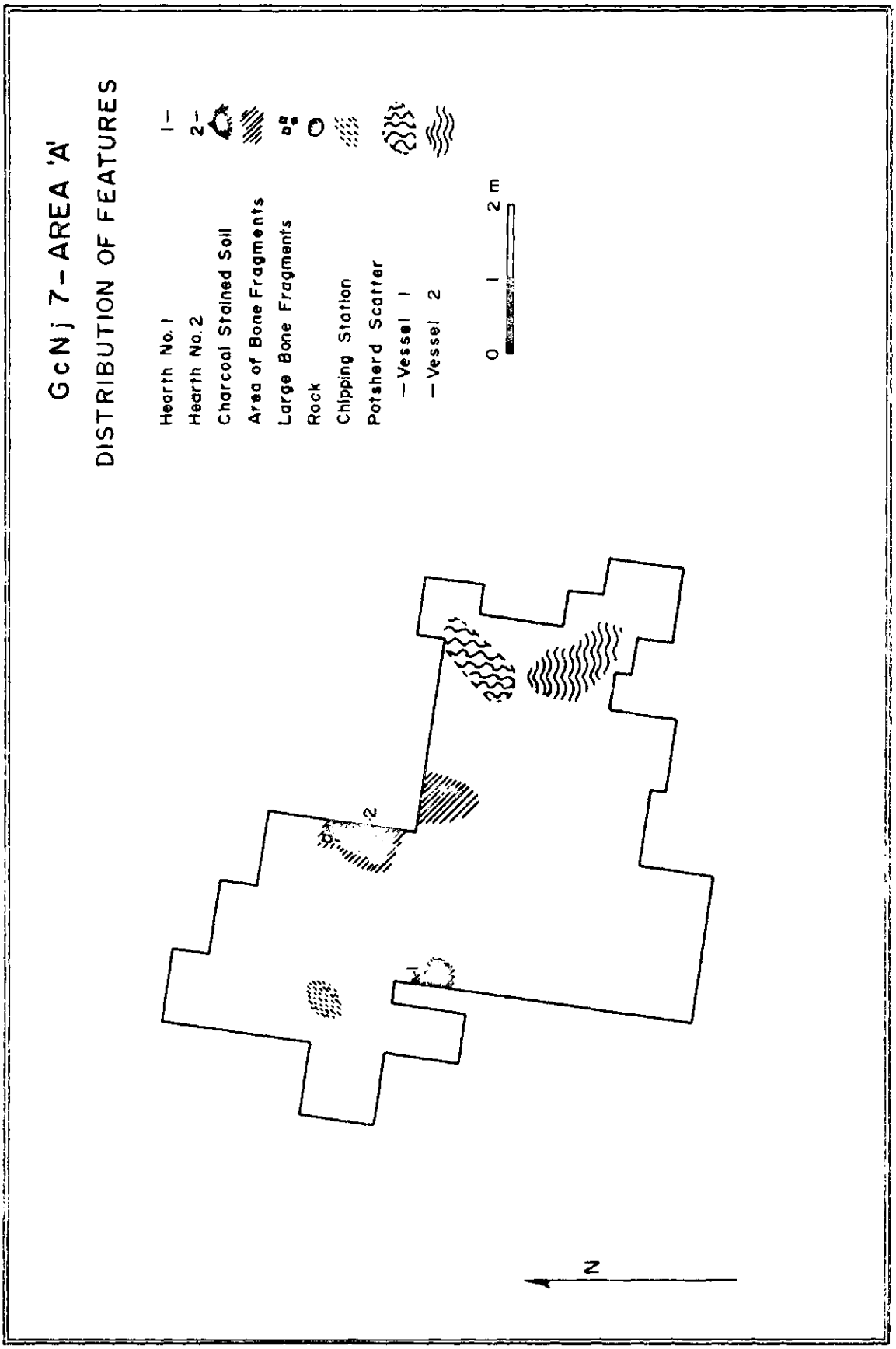


Figure 22. GcNj 7 Distribution of Features

extent of 20 cm x 30 cm. A large stone cobble was associated with this bone concentration and blackened soil area. The size of the stone measured 9 cm x 10 cm x 10 cm. Stratigraphically, the hearth was overlain by a mixed gold-gray sandy layer, which was termed a 'fill' layer, as its presence was considered to be the result of historic disturbance. No artifacts were found in direct association with this feature. Due to the presence of faunal remains with this feature, this hearth was considered potentially more recent than hearth No. 1.

Faunal Remains

The only faunal remains clearly related to a prehistoric period of occupation were those recovered in association with a feature, hearth No. 2 (Fig. 22). The small complex of fragments recovered apparently came from the same bone. These fragments comprised the proximal end of a tibia from a large cervid, probably Alces alces (Don Buckle 1974: personal communication).

Conclusions

The culture sequence for site GcNj 7 was based on inferences drawn from typological comparisons of artifacts of doubtful significance, as most of these artifacts were incomplete. Using projectile points alone, the earliest occupation of the site appeared to date to the Meso-Indian period, with specimens considered affiliated to the Hanna and Pelican Lake point types. The only other clearly represented period of occupation related to the late prehistoric period. This period was evidenced by a single, small, side-notched projectile point, and the occurrence of pottery. The

pottery was representative of the Clearwater Lake Punctate type of Winnipeg Fabric-Impressed Ware as defined by Hlady (1971: 7, 8) and was considered to relate to the Woodland Cree (Hlady 1971: 19).

Due to the paucity of artifacts recovered per unit excavated, occupational density of the site was considered to have been fairly light for any period of habitation represented.

The distribution of lithic artifacts per square meter (Fib. 23) indicated a clustering in the northwestern part of area 'A' which was mainly composed of scrapers (Fig. 14). Also, a tentative association of small bifaces and biface tip or projectile point fragments to this same area was suggested. On the basis of artifact provenience and density alone, an activity locus for the excavated area could be described. This proposition was further supported by the occurrence of 2 hearths in the same area (Fig. 22). Most of the artifacts recovered from the area (scrapers, small bifaces, biface tips, drill) were considered to be specialized tools adapted to the functions of scraping, cutting, and piercing activities. The apparently small size of the hearths and general absence of associated faunal remains tended to support the inference that these 2 features were not cooking hearths, but small smoke-tanning hearths. The only identified faunal remain was a moose tibia, again from this area. Tibiae have been known to be used as hide fleshers and if this specimen was such a tool, its occurrence in the vicinity of scrapers could have significance in relating the area to a wide range of hide-working activities.

The distribution of potsherds appeared distinct from that of the

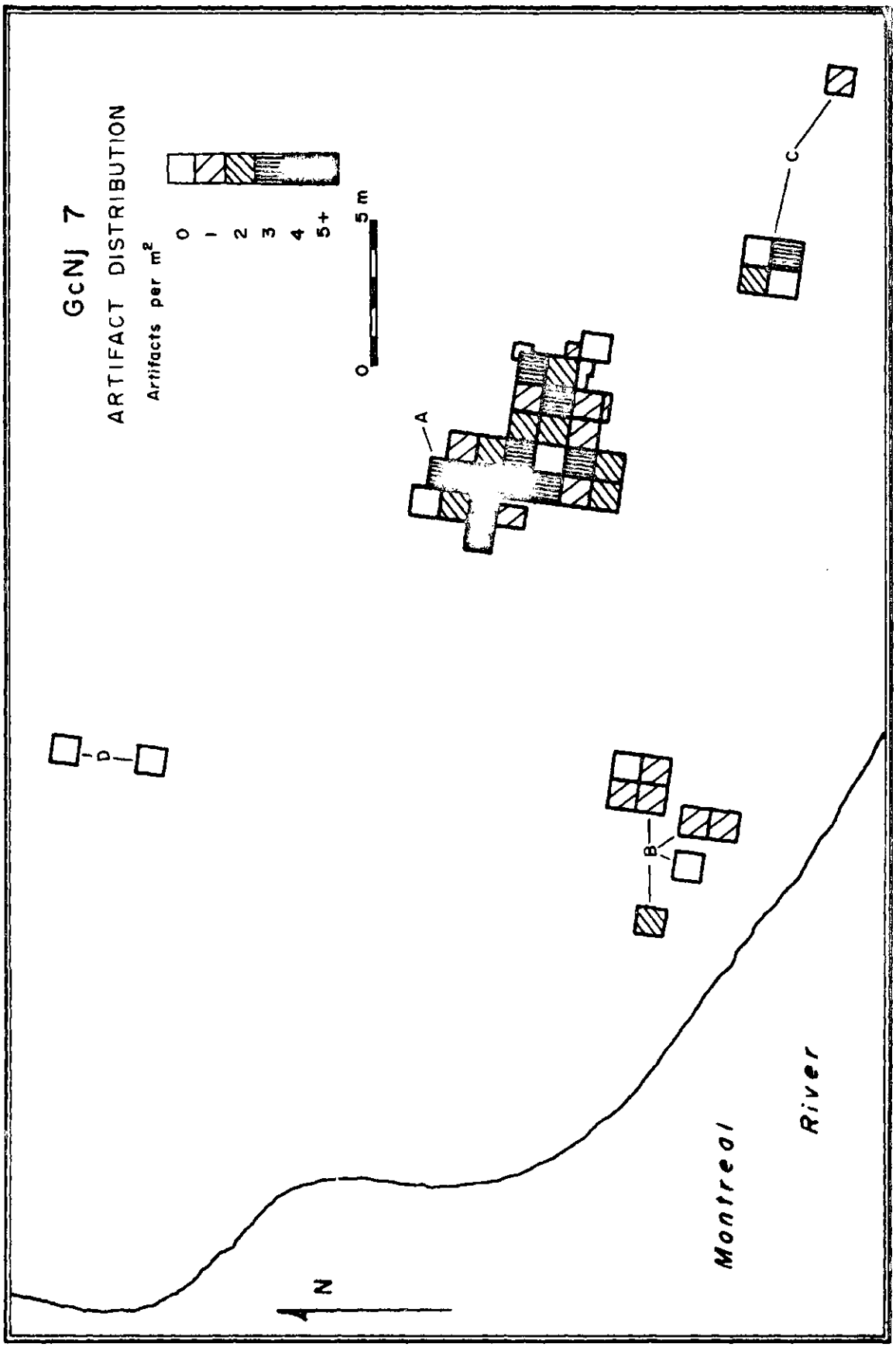


Figure 23. GcNj 7 Artifact Distribution

lithic artifacts. From this dispersal pattern it was inferred that the vessels represented either did not relate to the above described activity area, or were of a different, i.e., more recent, temporal period.

The associational significance of this activity area with the top of the knoll was problematical as insufficient excavations were carried out in other areas of the site. Due to depositional disturbance it was not possible to clearly determine associations among artifacts, between artifacts and hearths, and between hearths. Because the site did evidence some culture-history, the density of artifacts in the northwest part of area "A' could also be represented as an area of overlap, with the artifacts related to diverse activity areas at different periods of time. If this situation were true, however, the cultural implications of activity areas occurring in this particular topographical location of the site could gain in importance.

6. THE MULTI-COMPONENT SITE GcNj 2

Although a few of the preceding sites were also multi-component sites, the complexes represented could only be distinguished by the different projectile point types. In the case of GcNj 2, however, there was some separation of the components *in situ*. This separation permitted a fuller characterization of the different complexes and is consequently represented by this chapter.

This site is located on a constriction of Montreal River about 1 km south of the Molanosa boat landing (Fig. 3). The site is on the east side of the river and a cabin at this location was inhabited by Mr. Zachius Ross. Earlier occupations of the site were evidenced by 2 cabin foundations in other areas of the site. These 2 foundations and the present structure had resulted in some soil disturbance by their construction and the use of pits, possibly as cellars.

The topography of the site is generally flat, with most of the site less than 1 m above the river water level. The high water levels experienced in 1973 prevented excavation of some areas of the site and hampered excavation of some low-lying cultural deposits in excavation units close to the river bank. Vegetation cover consists mainly of grasses, shrubs, and poplars over ths site. Willows, rushes, and grasses along the river bank

reduced the erosional effects of the slow-moving river current.

Test excavations carried out in 1972 consisted of approximately 9 square meters and another 39 square meters were excavated in 1973 (Fig. 24). Historic objects, faunal remains, pottery, and lithic artifacts were recovered. A thick, well developed sod layer covered all areas of the site. This was followed by a thick and dark Ahe soil zone, a gray Ae soil zone, and an orange to brown Bt soil zone. These were formed from a fine sandy-textured soil base. Disturbances of the soil profile were frequently recognizable as mottled colored areas lacking the standard soil profile of the mixed-forest region. Cultural remains were found to occur throughout the soil profile, from the sod to the Bt zone, and the natural stratigraphy, in some undisturbed areas of the site coincided with the observed sequence of prehistoric cultural succession. This was noticeable for the Ae and Bt soil zones where potsherds and faunal remains were lacking. Faunal remains were common in the Ahe soil zone but their temporal affiliation was frequently difficult to determine.

6.1 Late Prehistoric Component

The existence of a late prehistoric component at the site was based on relative dating alone, and the associative presence of pottery and small side-notched projectile points. Stratigraphically, this component tended to be limited to the Ahe soil zone in the undisturbed areas of the site. Pottery from

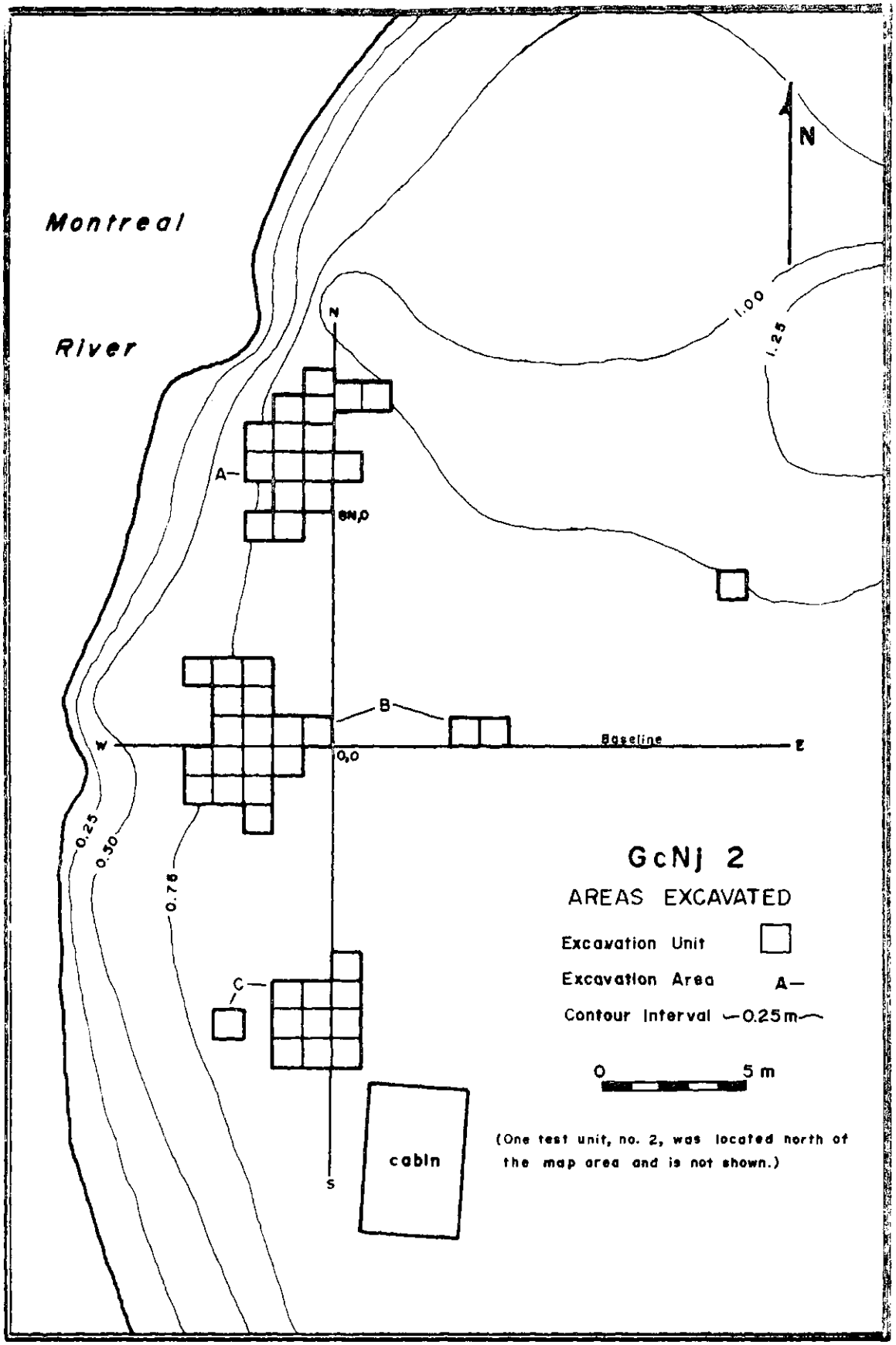


Figure 24. GcNj 2 Areas Excavated

disturbed areas of the site was considered to relate to this component and is consequently described in this section. A summary of the lithic collection from this component is given in Table 46.

Table 46. GcNj 2 Late Prehistoric Component Artifact Summary

ARTIFACT CATEGORY		N	%
Projectile Points		5	0.54
Scrapers		11	1.19
Unifaces		8	0.86
Large Bifaces		6	0.65
Biface Edge Tools		2	0.22
Biface Fragment		1	0.11
Drill		1	0.11
Bipolar Cores:	A-A	4	2.81
	P-P	4	
	P-A	2	
	R-P	5	
	R-A	6	
	R-R	5	
Detritus		865	93.51
	Total	925	100.00

Artifact Description

Projectile Points

Only 5 projectile points were recovered in association with the late prehistoric component of the site. These 5 specimens were of chert and included 3 side-notched points and 2 triangular points.

The metric attributes of these specimens are given in Table 47.

Specimen No. 42 (Plate 6, a) was complete. The body sides were convex in form and shoulder shape was straight. Stem form was side-notched, the notches being slightly deeper than wide. The side-notches had been ground. The base was straight, and had been thinned and ground. This specimen was considered morphologically affiliated to the late small side-notched types of projectile point.

Specimen No. 1735 (Plate 6, b) appeared incomplete bilaterally, and may have been discarded during the manufacturing process. This latter suggestion was supported by the location of a chipping station in the same area, which was constituted to a large degree of similar raw material. Shoulder shape was straight and stem form was side-notched. Side-notches had not been ground. The base was straight and had been thinned, but was unground. The specimen was considered similar to the Plains or Prairie side-notched projectile point types.

Specimen No. 409 (Plate 6, g) was broken in the basal region. The body sides were straight and shoulder shape was straight. Stem form was side-notched with narrow, shallow notches which had been ground. Basal characteristics were indeterminate due to breakages. On the basis of the available characteristics, the specimen was considered to represent a smaller variant of the Plains or Prairie side-notched types.

Specimen No. 391 (Plate 6, m) was nearly complete. This specimen had convex body sides with slight breakage of 1 edge. The

base was slightly concave and had been thinned, but was not ground. This point was considered less diagnostic of the late prehistoric period than the small side-notched specimens, as triangular projectile points have occurred in assemblages from various periods of time.

Specimen No. 871 (Plate 6, 1) consisted of the basal portion of a small triangular projectile point. The body sides and base had been thinned by fine secondary retouch. The base was slightly convex and had not been ground.

Table 47. GcNj 2 Late Prehistoric Component
Projectile Point Metric Attributes

SPECIMEN NO.	L.	W.	T.	S.W.	B.W.	N.W.	N.D.	N.H.
42	25.4	15.4	4.9	9.3	14.6	3.6	3.3	6.6
409	-	13.8	3.2	11.5	-	-	1.7	-
1735	24.4	14.7	3.0	9.7	12.1	3.9	2.0	5.4
391	27.6	17.5	6.0	-	17.5	-	-	-
871	-	13.3	2.4	-	13.3	-	-	-

Scrapers

There were 11 scrapers associated with the late prehistoric component of the site including 10 of chert and 1 of quartz. The metric attributes of these specimens appear in Table 48. Although several specimens appeared broken, only the length dimension of 1 scraper (458) was unrecorded, as its length was less than that of the shortest complete scraper.

Scraper of Quartz

The single quartz scraper (458) had a convex working edge, located distally, which was convex in form. The specimen had a width dimension greater than length, but this may have been a factor of breakage. Battering and shatter marks were evident on 1 of the

lateral edges, and the overall form was intermediate.

Scrapers of Chert

On all the chert scrapers the distal working edge was convex in form. There were 3 scrapers with an additional working edge located laterally and all (647 - Plate 7, c; 1905 Plate 7, d; 954) were convex in form. There was 1 other scraper (737 - Plate 7, e) with 2 additional working edges, located bilaterally, and both were convex in form. There were 4 specimens (581 - Plate 7,f; 931) (984- Plate 7, b; 1905) with a width dimension greater than the length dimension. Three scrapers (50, 951, 1397) appeared to have been made on flake blank forms. The striking platform actually only remained on 1 specimen (50 - Plate 7,g) where it was located proximally. The striking platform was also probably located proximally on the other 2 specimens. Bulbs of percussion were located ventrally. There were 4 scrapers that retained shatter characteristics and battering scars attributed to the compression forces induced by the bipolar knapping technique. On 3 of the scrapers (647, 954, 984) these attributes occurred on a single polar area, located proximally. On 1 of the scrapers (929 - Plate 7,a) these characteristics occurred bilaterally, indicative that this artifact resulted from the modification of a blank produced by the bipolar method. There were 2 scrapers (50, 931) expanding in form towards the distal end, and the remaining scrapers were intermediate in form, although 1 of these (737) might be termed 'discoidal' in form.

Table 48. GcNj 2 Late Prehistoric Component Scraper Metric Attributes

	LENGTH	WIDTH	THICKNESS	MIN. E.	MAX. E.
Minimum	12.7	10.0	4.2	50°	69°
Maximum	27.0	25.5	10.0	89°	107°
Sx	176.6	174.2	68.4	1035	1420
x	17.7	15.8	6.2	65°	89°
Median	15.2	16.0	5.7	65°	91°
N	10	11	11	16	16

Unifaces

There were 8 unifaces associated with the late prehistoric component of the site, including 3 of quartz, and 5 of chert. The metric attributes of this class are given in Table 49, although several of the specimens appeared slightly broken.

Table 49. GcNj 2 Late Prehistoric Component Uniface Metric Attributes

	LENGTH	WIDTH	THICKNESS
Minimum	21.4	19.2	2.8
Maximum	55.1	34.5	16.4
Sx	274.1	195.3	68.8
x	34.3	24.4	8.6
Median	31.7	22.9	7.5
N	8	8	8

Unifaces of Quartz

There were 2 unifaces (702, 1541) with a single working edge, located laterally. On 1 of these specimens (702) this edge was convex, and on the other specimen (1541 -Plate 7,;) the working edge was fairly straight in form. There was 1 uniface (810) which had 2 working edges, located bilaterally, and both edges were straight in form. All 3 unifaces were characterized by edge retouch, but 1 of these specimens (810) also appeared flaked extensively over

the rest of the dorsal surface. Two of the unifaces (702, 810) appeared made on indeterminate blank forms, but the third specimen (1541) evidenced shatter marks and battering proximally and distally, which suggested modification from a flake blank produced by the bipolar knapping technique. There were 2 unifaces (810, 1541) intermediate in form and 1 specimen (702) was contracting in form towards the distal end.

Unifaces of Chert

There were 3 chert unifaces (135 -Plate 7, k; 1751, 2227) with a single working edge, located laterally, and convex in form. On 2 of these specimens (935, 2227) a part of the working edge was located alternately. There was 1 uniface (670) with 2 working edges, located bilaterally, and both were convex in form. One of these edges was positioned alternate to the other. There was 1 uniface (353 - Plate 7, j) with 3 working edges, located distally and bilaterally, and all were straight in form. One of the lateral working edges was situated alternate to the others. All of the unifaces were characterized by edge retouch only. There were 3 unifaces (353, 935, 1751) which appeared to be made on flake blanks with striking platforms located proximally. Two of these specimens (935, 1751) had bulbs of percussion located ventrally and 1 specimen (353) had the bulb of percussion located dorsally. The other 2 unifaces occurred on indeterminate blank forms. There was 1 uniface (353) expanding in form towards the distal end, 2 unifaces (1751, 2227) were intermediate in overall form, and 2 unifaces (670, 935) were contracting in form towards the distal end.

Large Bifaces

There were 6 large bifaces associated with the late prehistoric component, including 5 of quartz and 1 of quartzite. The metric attributes of these specimens are given in Table 50. All of the specimens were broken. The length dimensions of 2 large bifaces (727, 982) were not recorded and the only formal attributes noted from these 2 specimens was the presence of a convex working edge, located distally.

Table 50. GcNj 2 Late Prehistoric Component Large Biface Metric Attributes

SPECIMEN NO.	LENGTH	WIDTH	THICKNESS
34	31.0	35.7	11.3
165	34.6	38.2	12.0
727	-	39.9	11.9
982	-	39.3	9.5
1154	35.9	32.3	13.6
1406	52.0	42.1	17.3

Large Bifaces of Quartz

There were 2 quartz large bifaces (1154, 1406) with working edges located bilaterally, and all of the edge forms were convex. There was 1 large biface (165 - Plate 8, c) with 3 working edges, located distally and bilaterally. The forms of the distal edge and 1 lateral edge were convex, and the other lateral edge was straight in form. The original blank forms of these large bifaces was indeterminate. Slight evidences of battering occurred unilaterally on 1 specimen (165) and bilaterally on another (1406 - Plate 8, e). The overall form of these large bifaces was contracting towards the distal end. One of the specimens (165) was considered semi-ovate in overall form, and the other 2 specimens (1154, 1406)

were considered semi-ovate-pointed in form.

Large Biface of Quartzite

This artifact (34) had 3 working edges, located distally and bilaterally, and all were convex in form. The original blank form was indeterminate. There appeared to be evidence of grinding of 1 of the lateral edges. Overall form was contracting towards the distal end and was considered semi-ovate in form.

Biface Edge Tools

This sub-class consisted of 2 chert specimens. Although 1 of the specimens (1214) appeared slightly broken, its metric attributes are also included in Table 51. One of the specimens (1214) had a single working edge, located laterally, and convex in form. The other artifact (951) had 2 convex working edges, located distally and unilaterally. The original blank forms of both specimens were indeterminate. One of the biface edge tools (1214) was contracting in form towards the distal end, and the other specimen was intermediate in overall form.

Table 51. GcNj 2 Late Prehistoric Component Biface Edge Tool Metric Attributes

SPECIMEN NO.	LENGTH	WIDTH	THICKNESS
951	32.2	20.3	9.6
1214	38.9	23.5	12.3

Biface Fragment

There was 1 biface fragment (2452a), of chert, recovered in association with the late prehistoric component. The specimen appeared to be an edge fragment, of convex form, from a projectile point or small biface.

Drill

There was 1 drill (663 - Plate 7, h) of chert, associated with the late component of the site. The artifact was quadrilateral in cross-section and was broken proximally. The artifact had been worked by steep retouch along the edges and had a tip apparently worn blunt through usage. The metric attributes of this specimen are given in Table 52.

Table 52. GcNj 2 Late Prehistoric Component Drill Metric Attributes

SPECIMEN NO.	LENGTH	WIDTH	THICKNESS
663	22.2	6.5	3.8

Bipolar Cores

There were 26 bipolar cores recovered in association with the late prehistoric component of the site, including 13 of quartz, and 13 of chert. The metric attributes of this sub-class are given in Table 53.

Table 53. GcNj 2 Late Prehistoric Component Bipolar Core Metric Attributes

		A-A	P-P	P-A	R-P	R-A	R-R
LENGTH	Minimum	25.6	16.0	20.2	19.8	18.2	12.9
	Maximum	43.4	28.5	21.0	31.2	44.4	23.2
	$\underline{S}x$	148.0	91.2	41.2	121.2	156.1	92.2
	$\bar{x}$	37.0	22.8	20.6	24.2	26.0	18.4
	Median	39.5	23.4	20.6	21.3	22.2	17.3
WIDTH	Minimum	20.3	6.2	11.0	15.0	17.3	13.0
	Maximum	38.1	17.3	13.4	27.0	46.8	19.8
	$\underline{S}x$	128.7	46.1	24.4	96.8	157.1	83.3
	$\bar{x}$	32.2	11.5	12.2	19.4	26.2	16.7
	Median	35.2	11.3	12.2	17.8	22.9	16.6
THICKNESS	Minimum	16.9	5.7	9.0	6.9	5.2	4.7
	Maximum	22.2	10.0	12.4	12.5	25.5	7.7
	$\underline{S}x$	80.2	32.0	21.4	47.2	75.0	30.3
	$\bar{x}$	20.1	8.0	10.7	9.4	12.5	6.1
	Median	20.5	8.2	10.7	9.1	9.5	5.6
N		4	4	2	5	6	5

All 6 varieties of bipolar cores were represented and the

frequencies of raw material type according to bipolar core variety can be given as follows: opposing ridge - 3 quartz and 2 chert specimens, ridge opposed by area - 4 quartz and 2 chert specimens, ridge opposed by point - 2 quartz and 3 chert specimens, point opposed by area - 1 quartz and 1 chert specimen, opposing point - 2 quartz and 2 chert specimens, and opposing area variety - 1 quartz and 3 chert specimens.

Pottery

The pottery recovered from the site included 436 bodysherds, 34 rimsherds, and 1 base sherd. These sherds were considered to represent at least 18 distinct vessels. Sixteen of these were determined on the basis of rimsherd differences, although only 5 separate rimsherd modes were apparent (Fig. 25). The determination of the various pottery vessels was considered a necessary and prior step to examining the pottery distribution at the site.

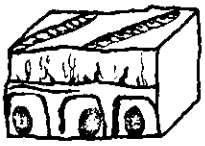
Vessel 1

Paste: The paste appeared tempered by grit or crushed granite of 0.8 to 3.5 mm in size, and also contained numerous small flecks of mica. Texture was fine to medium, and surface finish was smooth, with no evidence of fabric impression.

Decoration: A row of slightly ovoid punctates was impressed from the exterior, which formed raised bosses on the interior surface. The puntates were about 3.8 x 4.2 mm at the farthest impression and 5.0 x 6.5 mm at the surface. The depth of these impressions varied from 5.2 to 6.5 mm. Punctate spacing varied from 12.0 to 13.5 mm, center to center, and occurred 21.8 to 23.0 mm

POTTERY GcNj 2: RIMSHERD MODES

Mode No.	Appearance	Description	Vessel No.

1		- oblique, shallow, cord-wrapped stick-impressed lip
		- fabric impressed exterior
		  - smoothed on lip
		  - smoothed near rim edge
		- raised smoothed band punctate impressed
		- square near surface, round farther in
			6

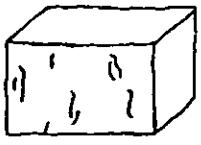
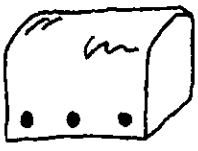
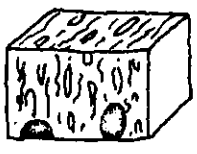
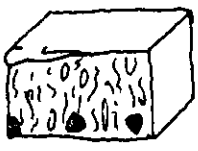
2		- coarse impressed exterior, heavily smoothed - flattened, smoothed lip - no punctates	2, 9
3		- heavily smoothed exterior, possibly not fabric impressed previously - flattened to rounded rims, smoothed - circular punctates.	1, 5, 11, 15
4		- fabric impressed exterior, possibly lightly smoothed - fabric impressed lip, flattened, possibly lightly smoothed - circular-ovoid punctates	3, 10
5		- fabric impressed exterior, possibly lightly smoothed - flattened, heavily smoothed lip, possibly originally impressed - ovoid-trianguloid punctates	4, 7, 8
Note: Vessels numbered 12, 13, 14, 16, 17, and 18 were too incomplete to be represented			

Figure 25. Rimsherd Modes

below the lip.

Form: The lip was flattened, with slightly rounded edges, and had been smoothed.

Vessel 2

Paste: The paste consisted of finely crushed granite which ranged in size from 0.8 to 1.5 mm. Texture was fine. Surface finish was smoothed on interior surfaces. Roughness of the exterior surface immediately below the lip could indicate that this surface had originally been fabric-impressed, but subsequently had been very heavily smoothed over while the paste was still plastic.

Decoration: Decoration was absent on the 2 rimsherds representing this vessel, i. e., this vessel did not have any punctates or other form of decoration.

Form: The lip was flattened and had been smoothed.

Vessel 3

Paste: The paste was sparsely tempered with very small size grains, possibly sand. Temper ranged from 0.4 to 1.1 mm in size. Texture was fine to medium. Surface finish was smooth on the interior, fabric-impressed and slightly smoothed on the exterior.

Decoration: A row of circular punctates was impressed from the exterior which formed raised bosses on the interior surface. These punctates were about 5.6 mm in diameter, and did not taper. Punctate spacing was about 13.5 mm, center to center, and occurred about 16.5 mm below the lip. Punctate depth was 4.8 to 6.3 mm.

Form: The lip form was flattened, fabric-impressed and lightly smoothed.

Vessel 4

Paste: The paste was heavily tempered with crushed granite of 0.4 to 3.7 mm in size. Texture was fine to medium. The interior surface finish was smoothed. The exterior finish was fabric-impressed with light smoothing below the punctates and heavy smoothing above the punctates.

Decoration: A row of ovoid punctates was impressed from the exterior which formed raised bosses on the interior surface. These punctates were about 2.8 x 3.6 mm in size at the farthest impression, and surface dimensions of 2.8 x 4.5 mm. Punctate spacing varied from 6.4 to 8.0 mm, center to center, and occurred about 10.8 to 11.3 mm below the lip.

Form: The lip was flattened and smoothed. The exterior edge was rounded and the interior edge was square-angled.

Vessel 5

Paste: The paste was very lightly tempered with mica and feldspar, suggesting crushed granite as the temper source. Tempering ranged from 0.3 to 1.8 mm in size, and texture was fine to medium. The interior surface had been wiped as indicated by numerous coarse horizontal striae. The exterior surface had been similarly wiped above the punctates, but the surface finish below the punctates may have been fabric-impressed, although the sherd was insufficiently large to allow this determination.

Decoration: A row of circular punctates was impressed from the exterior which formed raised bosses on the interior surface. The punctates were 6.0 mm in diameter at the farthest impression, and

6.7 mm in diameter at the surface. Punctate spacing ranged from 12.5 to 15.5 mm, center to center, and occurred 13.5 to 14.5 mm below the lip.

Form: The lip form was slightly flattened in the center with rounded edges towards the interior and exterior surfaces. The lip had also been wiped.

Vessel 6

Paste: The paste was moderately tempered with crushed granite from 0.7 to 2.9 mm in size, and texture was fine. The interior surface was smooth and the exterior surface had been fabric-impressed and partly smoothed.

Decoration: A row of punctates was impressed from the exterior which formed raised bosses on the interior surface. The punctates had been impressed through a band of raised clay on the exterior. The punctates were irregularly square or rectangular at the surface, but tapered to a circular or slightly ovoid form which created the deeper punctate impressions. Because the single rimsherd representing this vessel was broken at the bottom of the punctates, the complete form and size of these impressions was not fully determinable. The circular portion of the punctates was about 3.7 mm in diameter. Punctate spacing varied from 7.5 to 8.5 mm center to center, and occurred at 18.5 to 20.0 mm below the lip. There also appeared to be additional decoration in that the lip had been impressed obliquely with a cord-wrapped stick. These impressions were shallow and 2.8 mm. in width.

Form: The lip was flattened and had been smoothed prior to the

formation of the stick-wrapped impressions.

Vessel 7

Paste: The paste was moderately to heavily tempered with coarse crushed granite from 0.8 to 7.0 mm in size. Texture was fine to medium. Surface finish was smoothed on the interior and fabric-impressed with light smoothing on the exterior surface.

Decorations: A row of oval punctates was impressed from the exterior which formed raised bosses on the interior surface. The dimensions of the oval punctates were about 4.0 x 8.0 mm, with a slight taper towards the deepest part of the impression. Punctate spacing was about 10.8 to 12.5 mm, center to center, and occurred at 17.6 to 20.3 mm below the lip.

Form: The lip was flattened and fabric-impressed, with variable smoothing.

Vessel 8

Paste: The paste was heavily tempered with coarse crushed quartz from 0.7 to 3.5 mm in size. Texture was fine to medium. Surface finish was smoothed on the interior and fabric-impressed on the exterior, with moderate smoothing.

Decoration: A row of ovate-triangular punctates was impressed from the exterior which formed raised bosses on the interior surface.

The dimensions of the punctates were about 2.7 x 3.8 mm, with a slight taper towards the deepest part of the impression. Punctate spacing was from 6.4 to 8.7 mm, center to center, and occurred from 14.9 to 16.9 mm below the lip.

Form: The lip was flattened and smooth.

formation of the stick-wrapped impressions.

Vessel 7

Paste: The paste was moderately to heavily tempered with coarse crushed granite from 0.8 to 7.0 mm in size. Texture was fine to medium. Surface finish was smoothed on the interior and fabric-impressed with light smoothing on the exterior surface.

Decorations: A row of oval punctates was impressed from the exterior which formed raised bosses on the interior surface. The dimensions of the oval punctates were about 4.0 x 8.0 mm, with a slight taper towards the deepest part of the impression. Punctate spacing was about 10.8 to 12.5 mm, center to center, and occurred at 17.6 to 20.3 mm below the lip.

Form: The lip was flattened and fabric-impressed, with variable smoothing.

Vessel 8

Paste: The paste was heavily tempered with coarse crushed quartz from 0.7 to 3.5 mm in size. Texture was fine to medium. Surface finish was smoothed on the interior and fabric-impressed on the exterior, with moderate smoothing.

Decoration: A row of ovate-triangular punctates was impressed from the exterior which formed raised bosses on the interior surface.

The dimensions of the punctates were about 2.7 x 3.8 mm, with a slight taper towards the deepest part of the impression. Punctate spacing was from 6.4 to 8.7 mm, center to center, and occurred from 14.9 to 16.9 mm below the lip.

Form: The lip was flattened and smooth.

Vessel 9

Paste: The paste was heavily tempered with coarse crushed granite of 0.6 to 4.7 mm size. Texture was medium. The interior surface was smooth. The surface finish of the exterior had been impressed with a coarse fabric and moderately smoothed.

Decoration: Although the vessel was represented by 5 rimsherds, there was no indication of punctates or other decoration.

Form: The lip was flattened and smoothed.

Vessel 10

Paste: The paste was sparsely tempered with finely crushed quartz, or sand, from 0.8 to 1.9 mm in size. Texture was fine to medium. Surface finish on the interior was smoothed. The exterior surface was fabric-impressed and did not appear smoothed.

Decoration: Punctates were present but due to breakage, their form and dimensions were incomplete. Suggested form of the punctates was circular or ovoid, as indicated by the remnant punctate walls. Approximate diameter of the punctates was 6.3 mm. Punctate spacing was about 16.0 mm, center to center, and occurred 19.0 mm below the lip.

Form: The lip was fabric-impressed and had not been smoothed.

Vessel 11

Paste: The paste was sparsely tempered with crushed quartz, from 0.8 to 3.2 mm in size. Texture was medium. Surface finish of the interior and exterior surfaces appeared smoothed.

Decoration: Both sherds from this vessel were broken at the mid-line of the punctates. The punctates, however, appeared to have

been circular or ovoid in form, with a diameter of about 6.0 mm. Punctate spacing was about 14.2 mm, center to center, and occurred 16.4 mm below the lip.

Form: The lip was rounded and smoothed.

Vessel 12

Paste: The paste was sparsely tempered with crushed granite, from 1.0 to 3.4 mm in size. Texture was fine to medium. The surface finish was smoothed on the interior, and fabric-impressed — and lightly smoothed on the exterior.

Decoration: None on this small fragment.

Form: The lip was pinched into an angular form and slightly rounded by smoothing. Dimensions of the weft ranged from 2.2 to 3.2 mm in length, and from 0.6 to 1.7 mm in width.

Vessel 13

Paste: The paste was sparsely tempered with crushed quartz, from 1.0 to 3.7 mm in size. Texture was fine to medium. The surface finish was smoothed on both the interior and exterior.

Decoration: No decoration was present on this small fragment.

Form: The lip was rounded and smoothed.

Vessel 14

Paste: The paste was moderately tempered with crushed granite and quartz, from 0.8 to 3.5 mm in size. Texture was medium to coarse. The surface finish was smoothed on the interior and exterior surfaces.

Decorations: No decoration was present on this small fragment.

Form: The lip was rounded and smoothed.

Vessel 15

Paste: The paste was moderately tempered with crushed granite and quartz, from 0.8 to 3.9 mm in size. Texture was fine to medium. Surface finish was smoothed and wiped on the interior and exterior surfaces.

Decoration: Circular punctates had been impressed from the exterior which formed raised bosses on the interior surface. None of the punctates, however, was complete in form due to breakage. Suggested punctate form was circular or ovoid, with diameter of the punctates about 4.0 mm. Punctate spacing was 7.7 to 9.8 mm, center to center, and occurred at a 15.0 to 18.8 mm below the lip.

Form: The lip was flattened, with rounded edges, and smoothed.

Vessel 16

Paste: The rimsherd representing this vessel did not appear to have any temper present in the paste. Texture was fine to medium. Surface finish was smoothed on the interior, and fabric-impressed on the exterior, with slight smoothing.

Decoration: No punctates or other decoration was present on this rimsherd.

Form: The lip was rounded to slightly flattened, and had been smoothed.

Although there were 16 different vessels represented from the rimsherd collection, analysis of the bodysherd collection revealed only an additional 2 vessels. Analysis of the bodysherds from the high sherd density areas, 'B' and 'C', showed a great range of variability in attributes and numerous sherds could not easily be

separated into distinctly identifiable vessels which could be correlated to, or distinguished from, the vessels ascribed to differing rimsherds. It was assumed, however, that most of the bodysherds recovered probably related to the 16 described vessels.

The 2 additional vessels suggested for the site were based on body sherds. Vessel No. 17 was suggested by distributional pattern, in that the 2 bodysherds from Test Pit 2 were at such a distance from area 'A' that they probably indicated the existence of a separate vessel. These sherds were coarse, crushed granite tempered, had a coarse fabric-impressed exterior which appeared slightly smoothed, and a smooth interior.

Vessel No. 18, from 5 E, 0, and 6E, 0, was suggested by the differences between the rimsherd representing vessel 16 and the bodysherds from this area. The most significant difference was that the fabric-impressions on the bodysherds were considerably coarser. Lesser differences appeared to be in the relative degree of smoothing of the exterior surface, and differences of quantity of temper present in the paste.

Clay Lumps

There were 3 lumps of clay, which appeared to have been fired, recovered from the site. Two of these were recovered from square 2S, 3W, and in association with the sunken hearth feature. The third specimen was from square 1S, 2W. These lumps were tempered with crushed quartz from 0.5 mm to 2.5 mm in size. Texture was medium to coarse. The similarity of the paste to that of the pottery vessels suggested that clay was imported to the site for

the manufacture of pottery. Considering the association of these lumps to the hearth, it was possible that pottery was moulded nearby and fired in this feature.

Worked Bone

There were only 6 pieces of worked bone recovered from the site, and all were recovered from disturbed or indeterminate contexts. The indeterminate contexts referred to probable transition zones which could represent the late prehistoric, contact period, or early historic period occupation. Two of the specimens (87, 133) evidenced fine cut marks which could have been made by a steel knife. The remaining specimens did not evidence tool marks from manufacture due to the deterioration of their surfaces. The only identifiable artifacts included a bird bone tube, possibly a bead blank, (257), and an ulna awl (323).

Faunal Remains

The vertebrate fauna from GcNj 2 consisted of 520 bones and bone fragments. Most of these remains were fragmented, unidentifiable, and recovered from disturbed or indeterminate contexts. Only 30 potentially identifiable bones were recovered in association with the late prehistoric period of the site. These remains included 12 mammal bones (40 %), 10 bird bones (33 %) and 8 fish bones (27 %).

Of the faunal remains, only the fish bones could not be identified as to species. The fish bones consisted mainly of skull bones and vertebrae. Numerous fish scales were encountered during the excavation. Table 61 indicates the faunal species represented at the site for the late prehistoric period.

Table 54. GcNj 2 Identified Faunal Remains for the Late Prehistoric Component

SPECIMEN NO.	SPECIES	NO. OF INDIVIDUALS
3,5,10,29,30 223, 232, 511	Moose (young adult) *Alces alces*	1
178, 391, 518	Beaver *Castor canadensis*	2
231	Bear *Ursus*	1
292	Snowshoe hare *Lepus americanus*	1
36	Red-necked grebe *Podiceps grisgena*	1
38	Western grebe *Aechmophorus occidentalis*	1
28	Double-crested cormorant *Phalocrocorax auritus*	1
176, 191	Mallard *Anas platyr hynchos*	1
520	Ring-necked duck *Aythya collaris*	1
32,33	Lesser scaup *Aythya affinis*	1
513	Ruddy duck *Oxyura jamaicensis*	1
517	Common loon *Gavia immer*	1

Although bird bones were less numerous than mammal bones, they represented more species and more individuals. The bird bones of the identified sample included coraccoids, fircula, humeri, tibiae, sternum and carpometacarpus (Dr. Howard Savage 1974: personal communication). These bones suggested birds mainly of moderate size and were taken as probable indication of dietary remains. The identification of the species represented tended to support his suggestion as well as indicate occupational seasonality of the site.

Mammalian bone was abundantly represented at the site but consisted mainly of splinters and fragments. From the identifiable bone sample, only 4 species were represented, and all of these still occur in the Montreal Lake regions, as is also true of the birds.

Cultural Configurations - Late Prehistoric Component

Lithic Remains

The distribution of all the lithic artifacts associated with the late prehistoric component of the site are represented in Figure 26.

A comparison of the data from the areas 'A' and 'B' clearly indicated the greater artifact density of the latter area. From this it was inferred that area 'B' constituted a more significant locus of cultural activities than area 'A', at least insofar as these activities related to the performance of tasks involving lithic tools. Within area 'B', a more localized configuration of artifacts appeared to indicate that these activities centered upon the 3 squares of 1S, 2W; 1S, 3W; and 2S, 2W.

Only 1 artifact class (scrapers) was observed to have any tendency to cluster. There were 4 scrapers located in square 1S,2W,

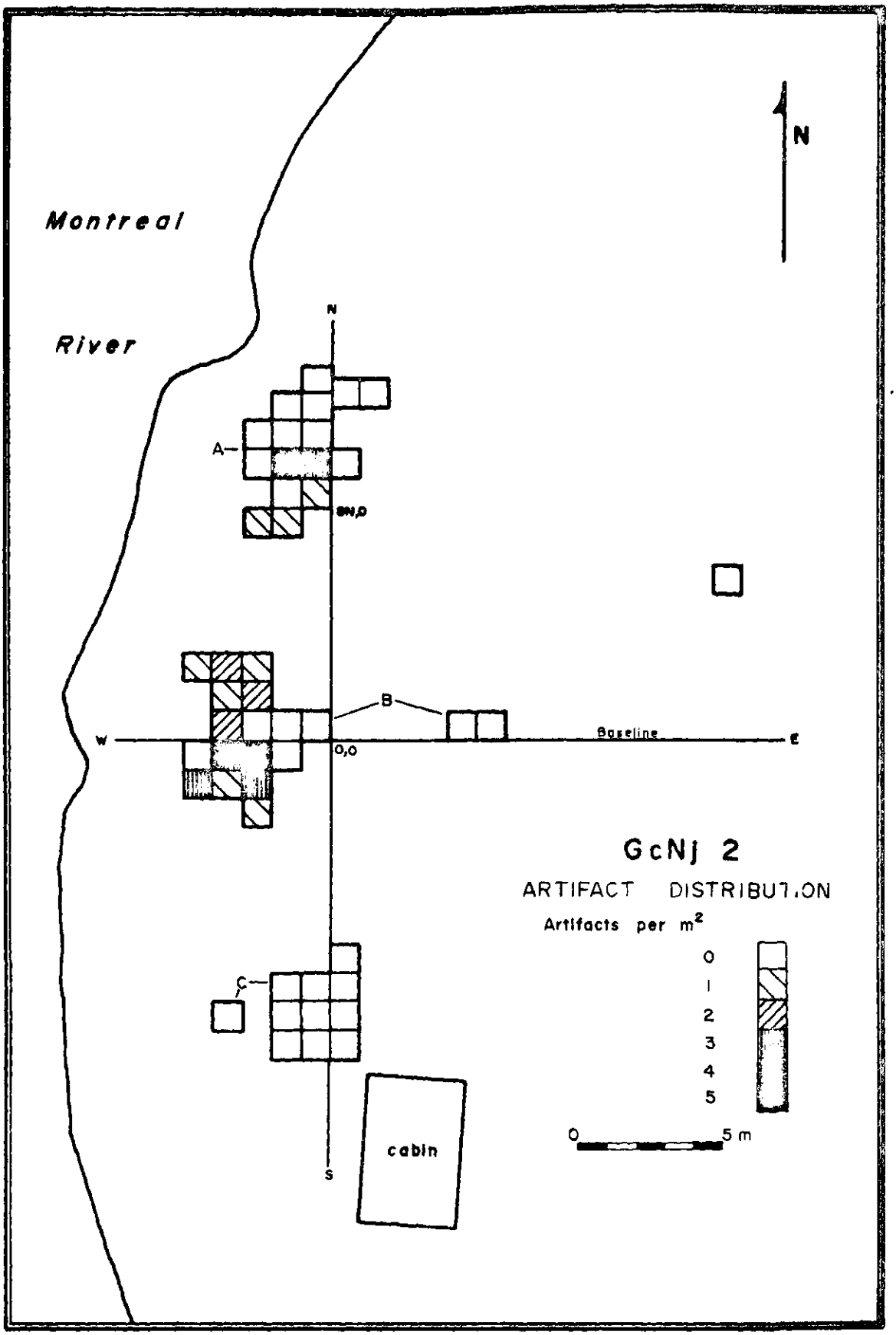


Figure 26. GcNj 2 Late Prehistoric Component Artifact Distribution

(Fig. 27) which were considered to form a scraper cluster, but the variety of attributes presented by these specimens evidenced considerable heterogeneity. The distribution of the several artifact classes indicated some tendency to associate with each other, and suggested activity areas (Figs. 26-30).

Only 1 chipping station was associated with the late prehistoric component of the site. This activity area was located in squares 9N, 0; and 9N, 1W, of area 'A' (Fig. 31). This chipping station consisted of 3 concentrations of small flakes and shatter in a compact distribution, which appeared to be characterized by percussion flaking with small force, and probably some pressure flaking. There were only small variations between each of the concentrations, and these were essentially differences in raw material frequencies. This chipping station was considered to represent mainly a secondary tool manufacturing area as most of the flakes and shatter were of small size and there was a general absence of decortication flakes and shatter. Two bipolar cores of opposing ridge variety were also associated with this feature. These cores (1745, 1371) could indicate that the bipolar knapping technique was not utilized strictly for decortication or primary core reduction processes, but possibly also to produce suitabl sized blanks for subsequent modification in an intermediate process. Bipolar core distribution is shown in Figure 32.

Pottery

The pottery recovered from the site corresponded to the paste, decorative and formal attributes defined by Hlady as characteristic

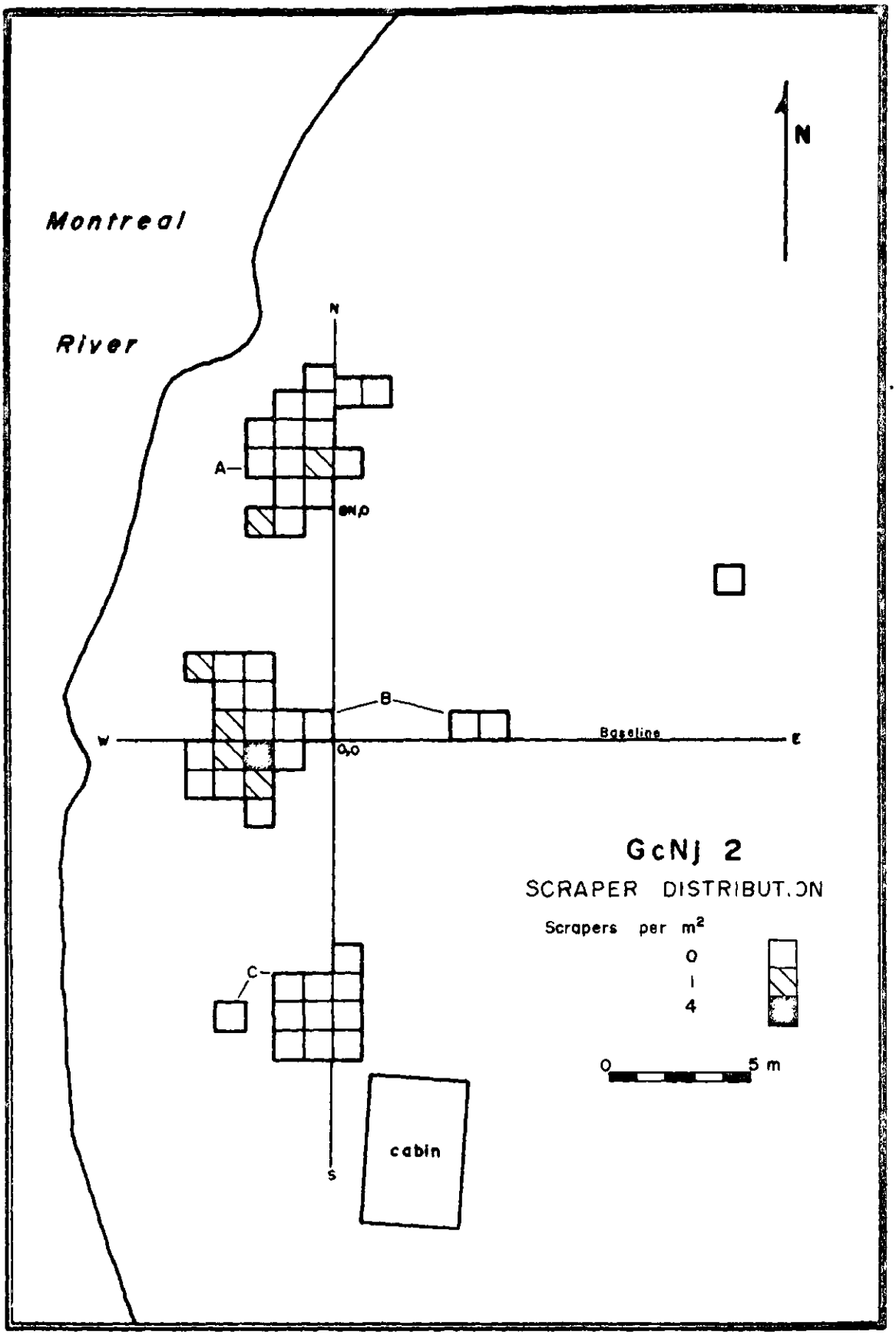


Figure 27. GcNj 2 Late Prehistoric Component Scraper Distribution

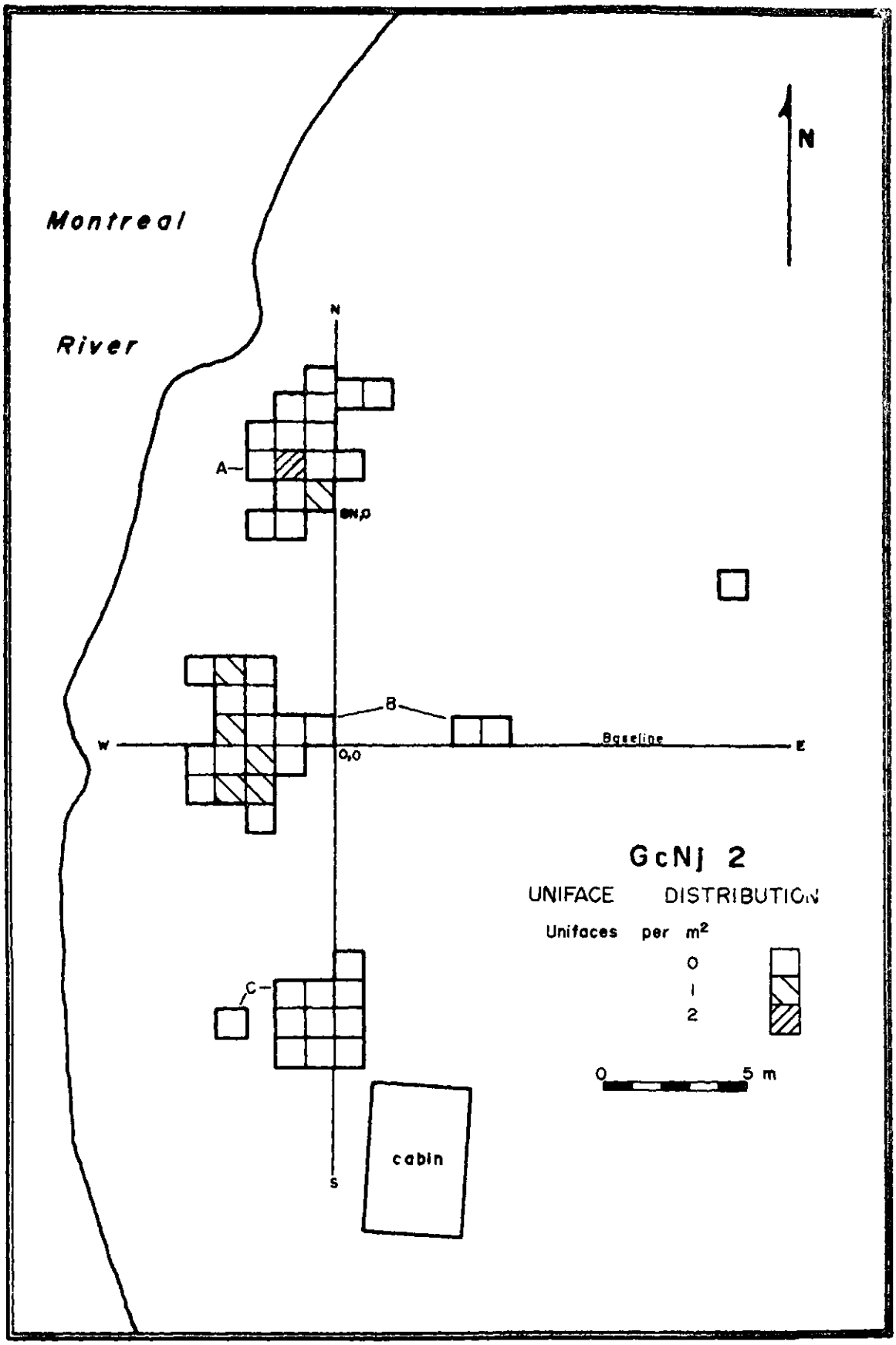


Figure 28. GcNj 2 Late Prehistoric Component Uniface Distribution

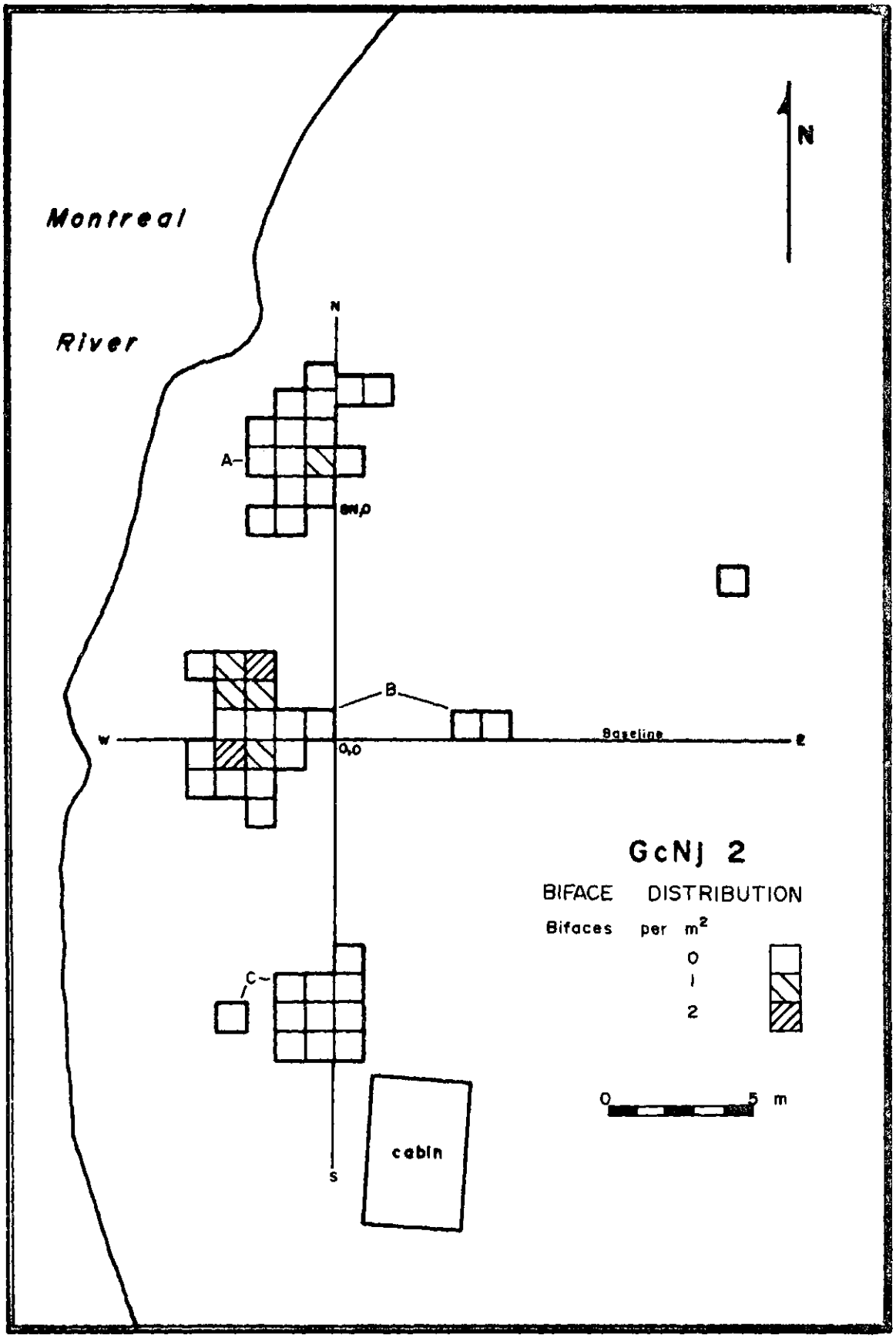


Figure 29. GcNj 2 Late Prehistoric Component Biface Distribution

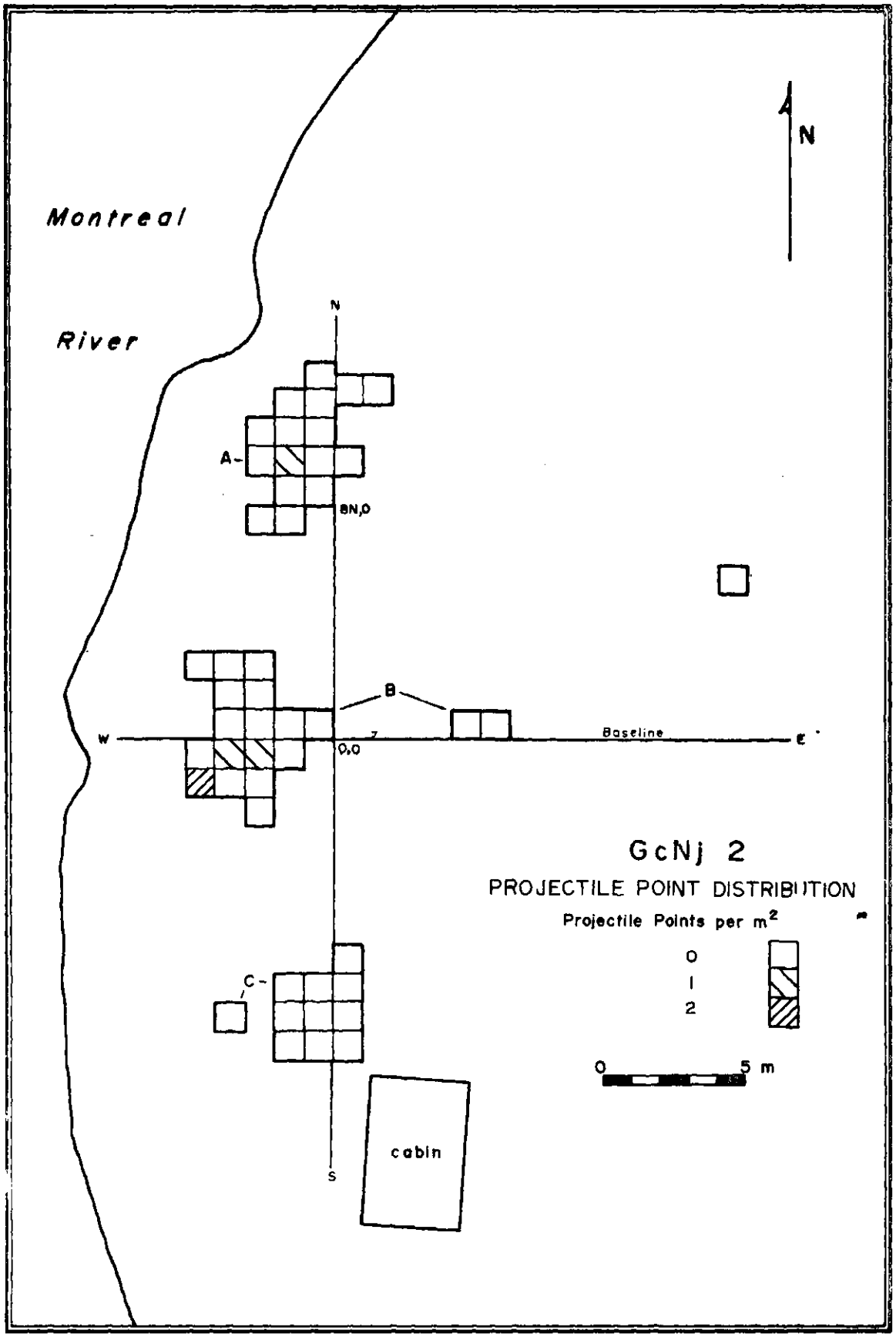


Figure 30. GcNj 2 Late Prehistoric Component Projectile Point Distribution

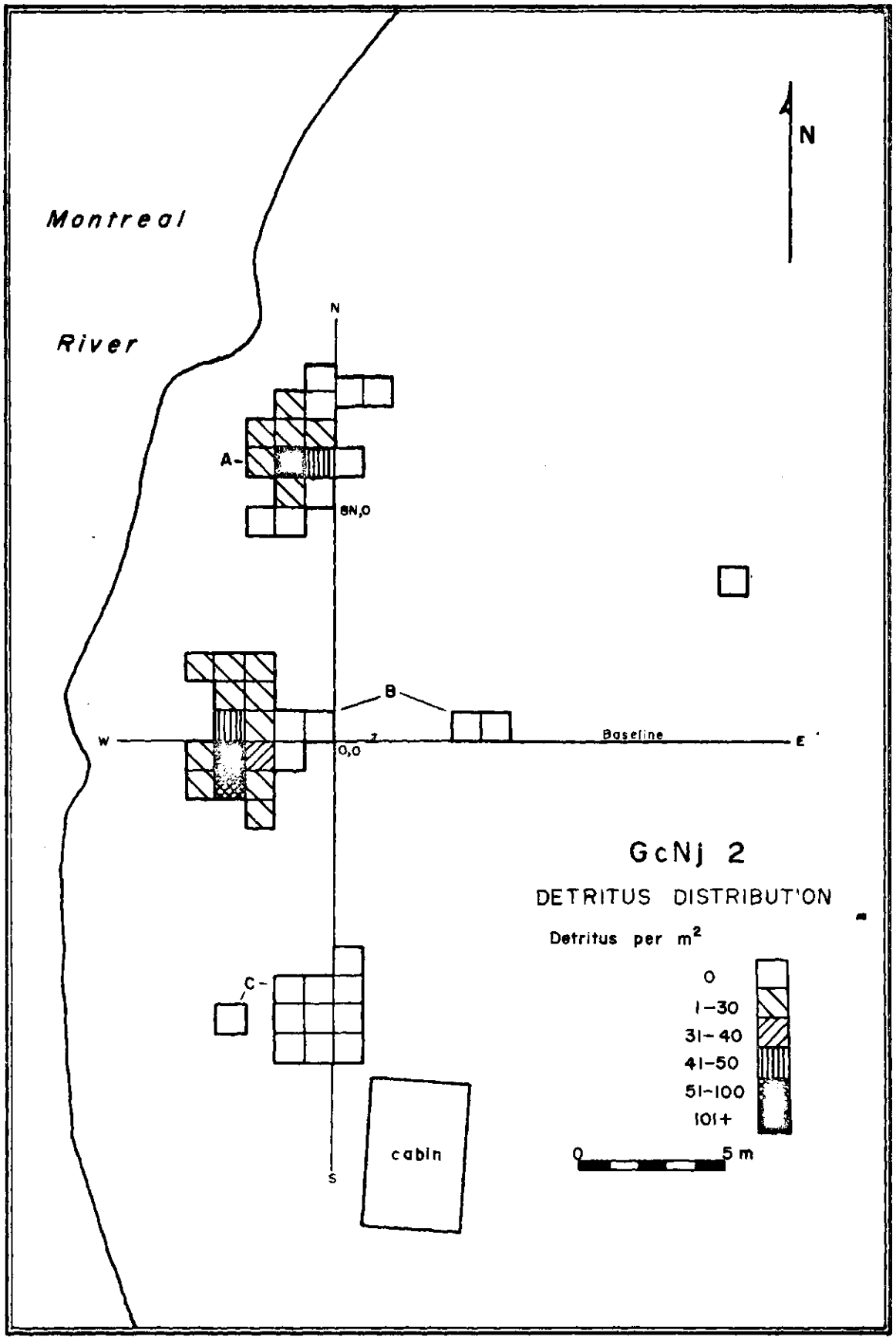


Figure 31. GcNj 2 Late Prehistoric Component Detritus Distribution

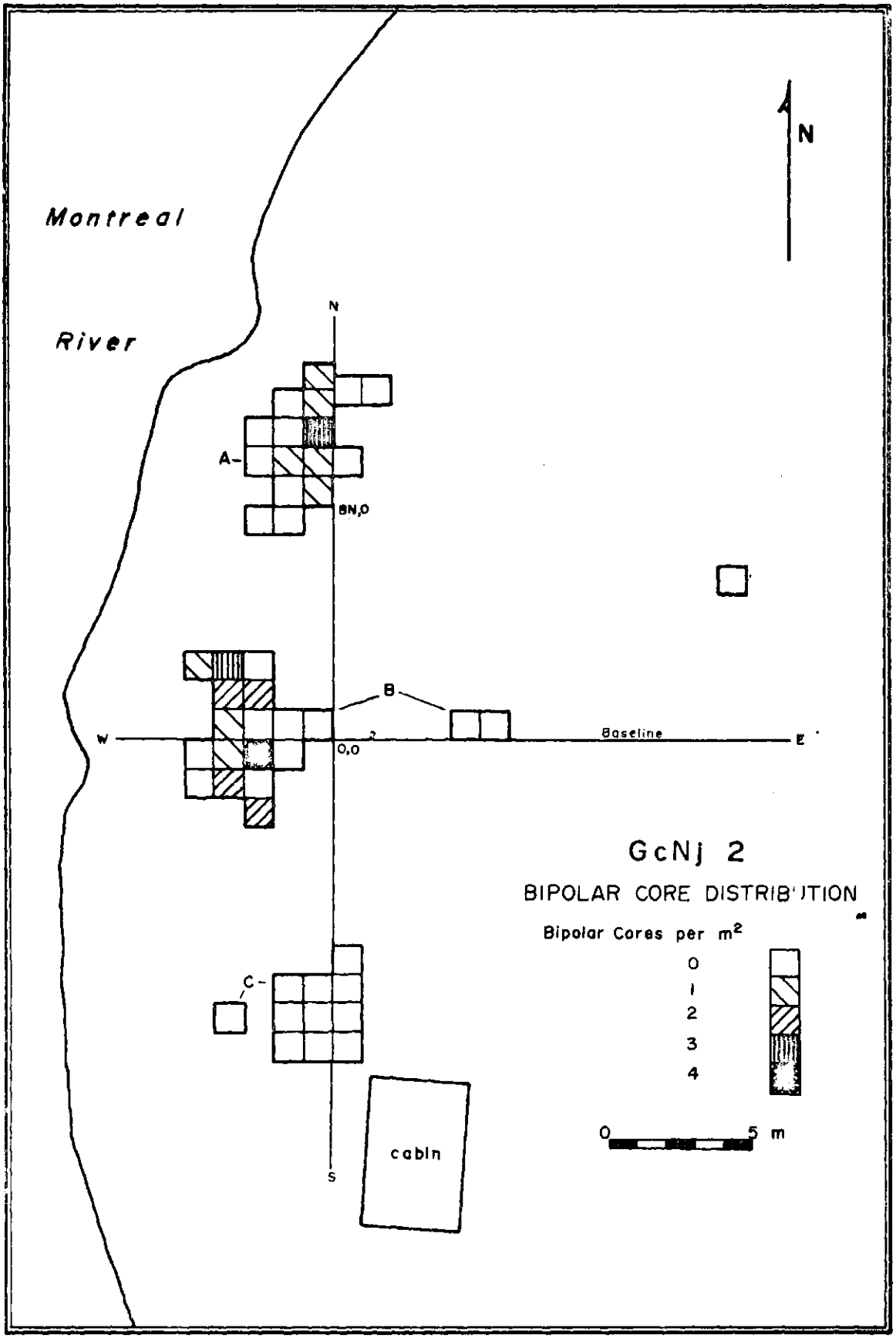


Figure 32. GcNj 2 Late Prehistoric Component Bipolar Core Distribution

of the Clearwater Lake Punctate type of Winnipeg Fabric-Impressed Ware (1971: 7, 8). This pottery was considered affiliated with the Woodland Cree (Hlady 1971: 19), and tentatively dated between A.D. 1500 and 1800 (Hlady 1971: 22). As all of the pottery was of the same type and dated to the same period, the potsherd and vessel distribution at the site is given (Figs. 33, 34), although much of the data recovered was from a disturbed context. The dispersal pattern manifested was not random and was accepted as a reflection of cultural activity.

The potsherd distribution throughout area 'A' appeared fairly even, and as only 1 vessel was clearly indicated, its occurrence here was regarded as merely incidental.

The pattern of sherd distribution and vessel density exhibited in area 'B' was considerably different. Several of the 1 meter units in this area yielded a high frequency of potsherds which appeared to correlate to the occurrence of a number of pottery vessels in the southern part of this area. This concentration of potsherds and vessels could only be interpreted as an activity area where pottery played a role of considerable cultural significance. It was inferred that this role pertained to cooking activities. This inference was based on the high potsherd and vessel density which correlated to the distribution of the identifiable faunal remains and the presence of a sunken hearth (Figs. 35, 36). It is suggested that this co-occurrence was not fortuitous, and that cooking, as an activity, most simply explains this cultural configuration.

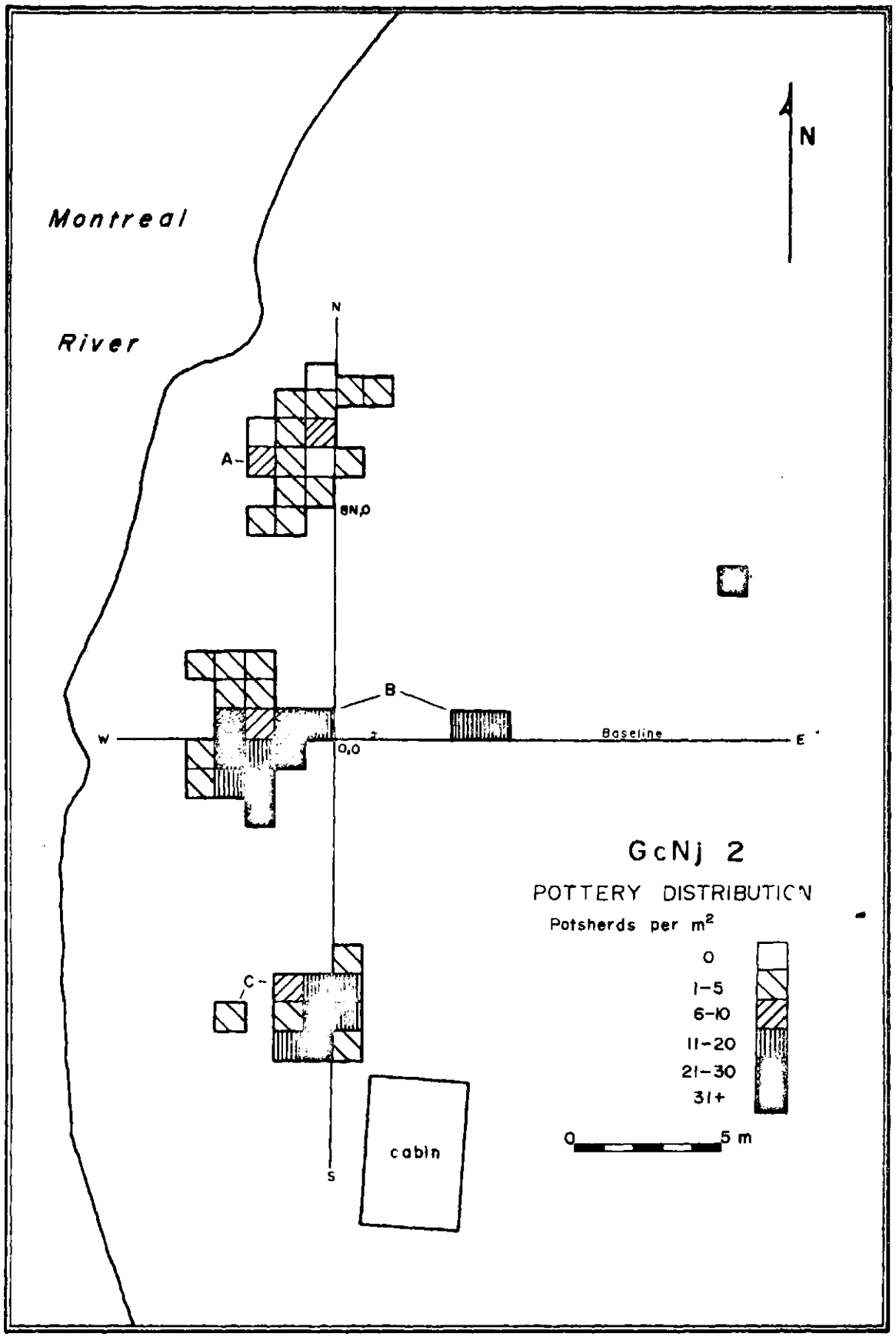


Figure 33. GcNj Late Prehistoric Component Pottery Distribution

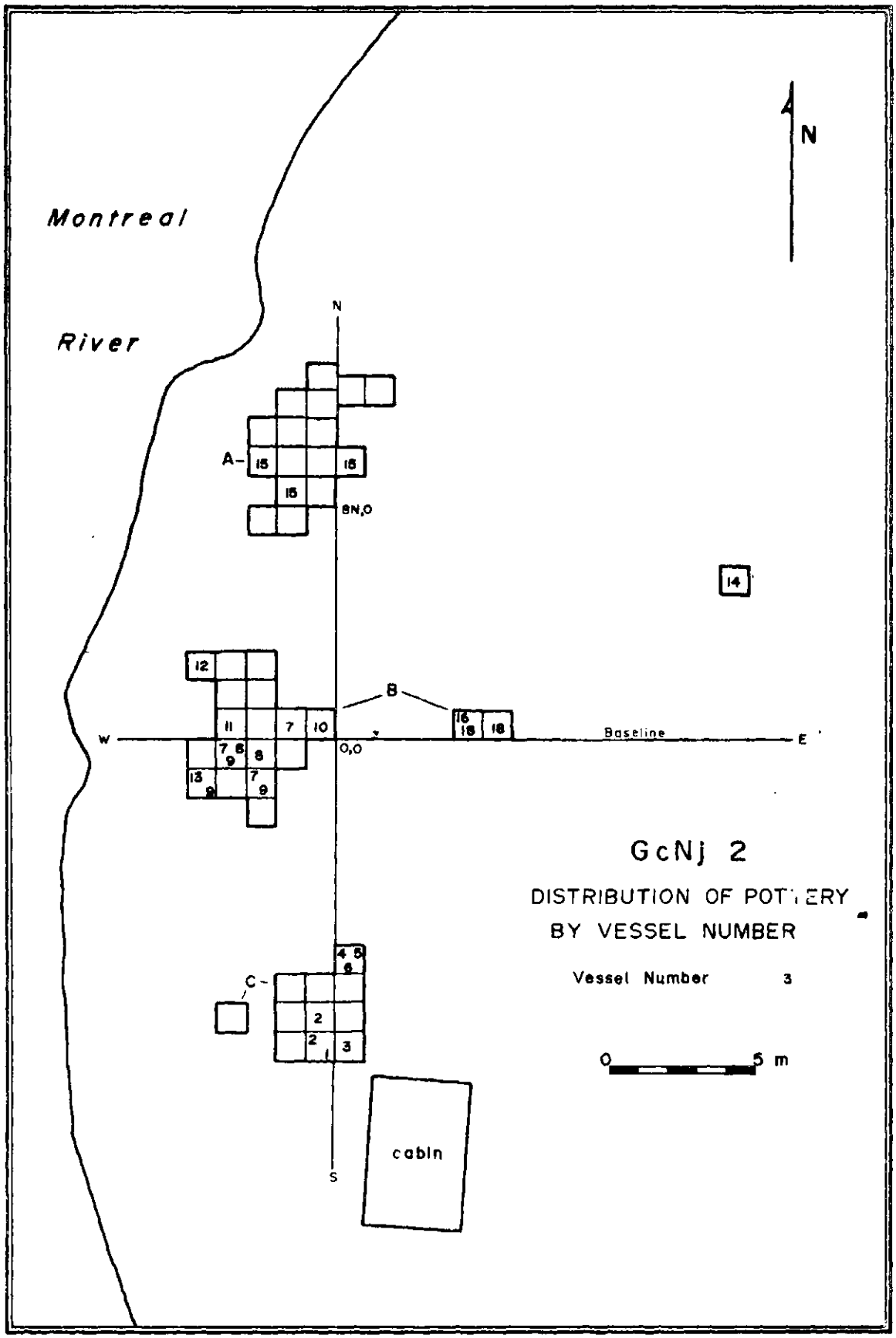


Figure 34. GcNj 2 Late Prehistoric Component Vessel Distribution

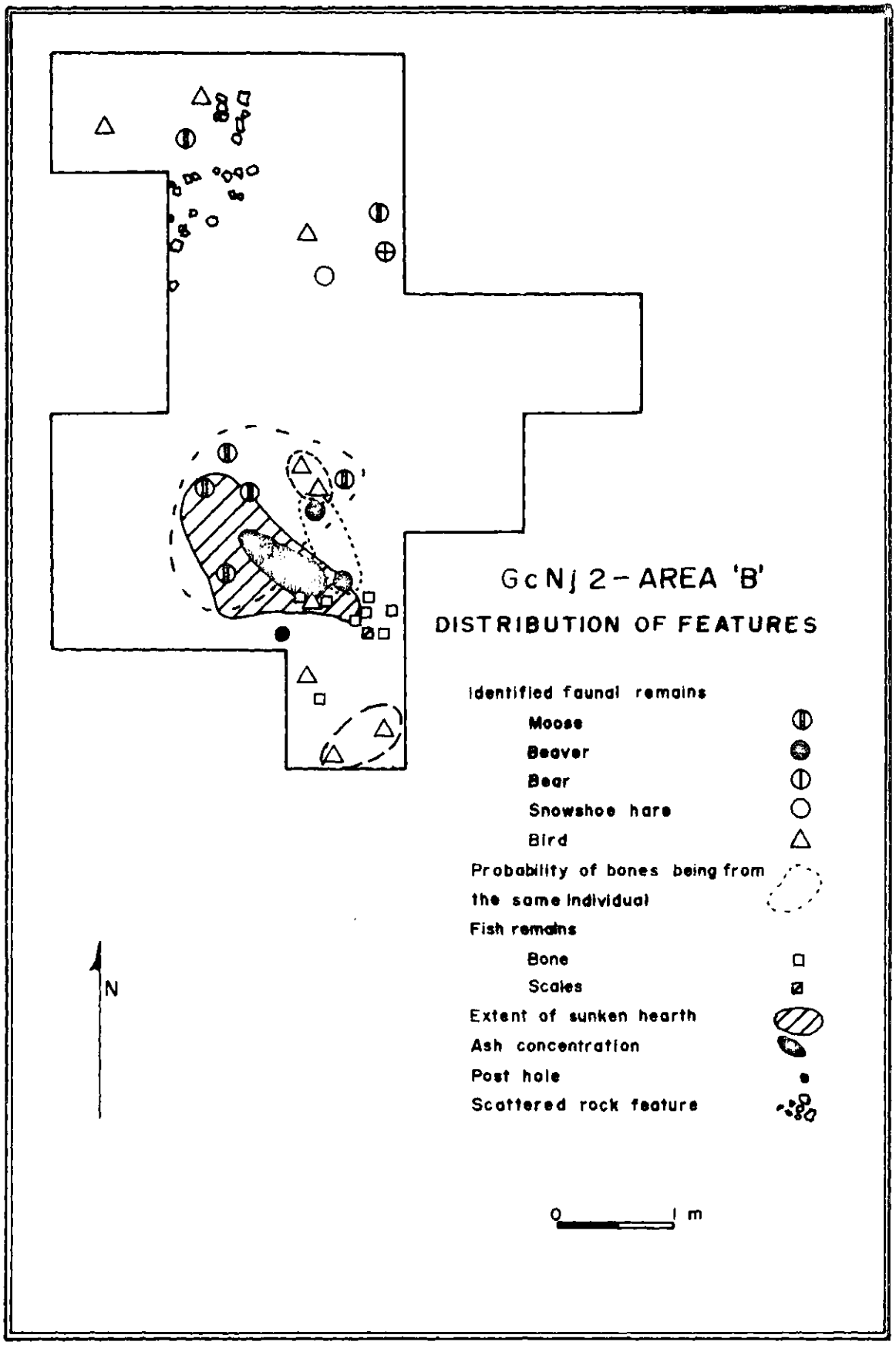


Figure 35. GcNj 2 Late Prehistoric Component Distribution of Features

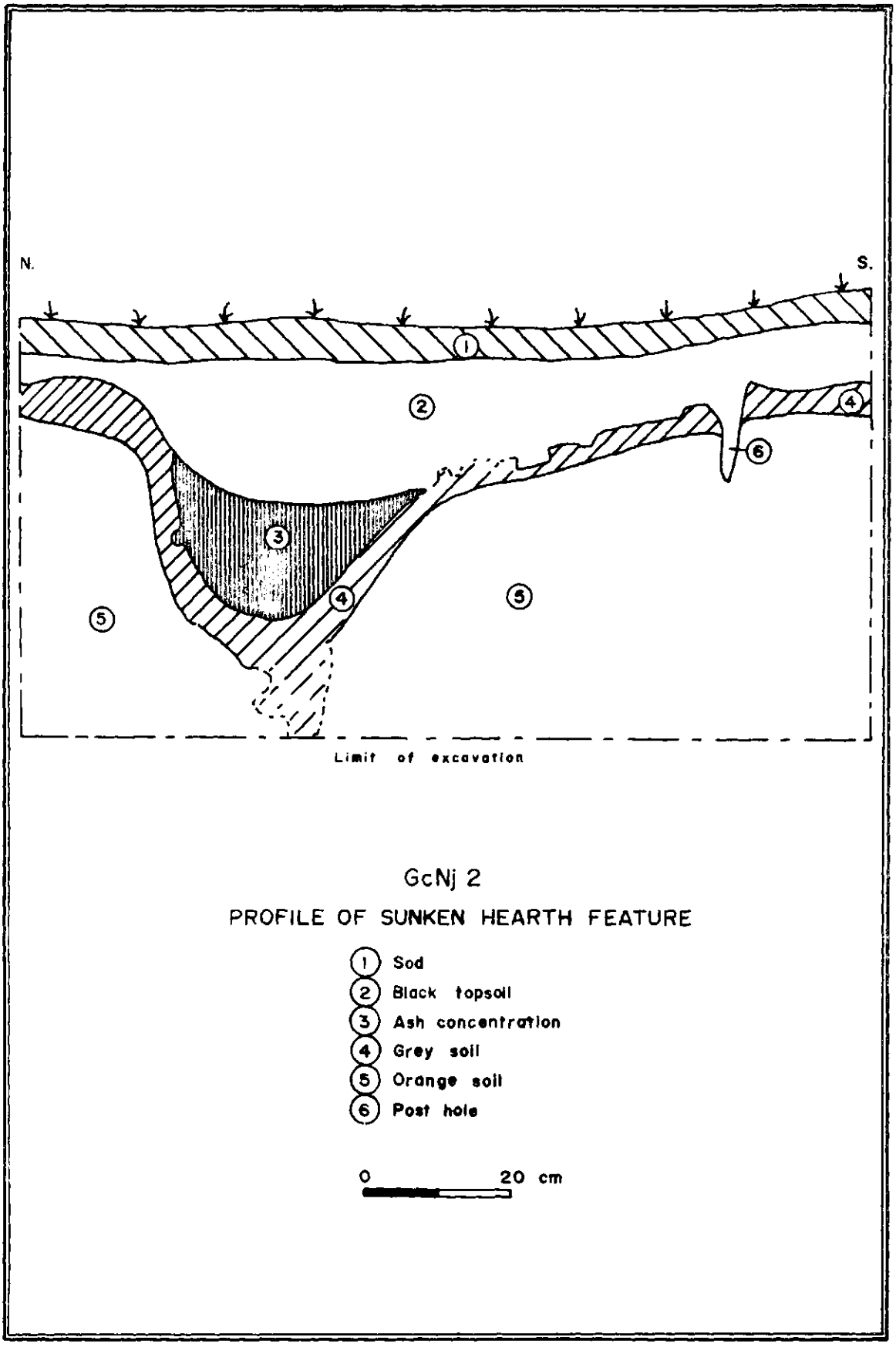


Figure 36. GcNj 2 Late Prehistoric Component Hearth Profile

Several pottery vessels and numerous sherds were recovered from area 'C', but as this area was largely disturbed, the safest generalization is that the area probably witnessed more numerous activities relating to the usage of pottery than did area 'A'.

Features

There were 2 features considered to be associated with the late prehistoric component of the site.

The most prominent and clearly identified feature uncovered was a sunken hearth (Figs. 35, 36). This feature was ovoid or elliptical in plan view and was about 50 x 100 cm on the outside dimensions, taken near the top of the feature. The ash deposit was centered inside the feature in a basin and matrix of blackened, charcoal stained soil. The ash was a finely textured deposit, but small fragments of bone remained visible, although unidentifiable. Two potsherds were contained in the excavated ash deposit, and 1 of these was a rimsherd from vessel No. 7, clearly of Clearwater Lake Punctate type. The surrounding black soil matrix was richer in artifact deposition, including lithics and pottery. In direct association with the lowerpart of this basin and extending into the ash deposit was a jaw fragment identified as that of a young adult moose (Buckle 1974: personal communication). No wood remains were present and charcoal was evident only in very small quantities. The basin had not been lined with stones, but a few moderately sized rocks in the vicinity of the feature possibly were associated. One post hole was also found nearby, which may or may not have been associated. This post hole was tapered towards the bottom and appeared positioned nearly vertically.

This sunken hearth may have served a variety of functions. The feature may have been a cooking fireplace (bone fragments in the ash, pottery in the ash, high density of pottery in the vicinity, high density of bone in the vicinity), as a firing hearth for the manufacture of pottery (clay lumps in the vicinity, potsherds in the ash), and as a focal point for the activities represented by the high density of a variety of artifacts clearly associated with the late prehistoric period.

A second feature consisted of a rock cluster uncovered in squares 1N, 3W; and 2N, 3W (Fig. 35). Small quantities of charcoal were associated and suggested the possibility of a scattered hearth. Few faunal remains, however, were recovered in association and there was a total absence of ash. Pottery density in the area was low and most of the associated cultural materials were distributed to the east of the feature. The rocks constituting the feature appeared partially worn and irregular, indicating that they may have been obtained from nearby deposits of glacial till. The rocks consisted of a variety of materials, but most were of granite. Many were of the same general size, and some also appeared to be fire-cracked.

Conclusions

The late prehistoric component at GcNj 2 yielded a complex of cultural remains from which inferences can be drawn regarding subsistence, site utilization, and material culture. The recognition of these facets facilitates an understanding of the lifeways of the Woodland Cree for the late prehistoric period in the Montreal Lake region, and may provide a basis for further testing, or comparative

data for other peoples, cultures, and times.

In regard to the avifaunal remains, the 8 species represented are all currently found in Saskatchewan and all are associated ecologically with aquatic habitats. All of the species are migratory and only the Mallard occasionally winters in southern Saskatchewan near "Regina, rarely elsewhere" (Godfrey 1966: 55). The species represented would be present in the Montreal Lake area during spring and fall migrations, and during the summer nesting period. Some of the species may have appeared in the vicinity earlier than others, but all "...would have been present at the site at the same time by present information only between May and October" (Savage 1974: personal communication). It is suggested, therefore that these remains indicated probable occupation of the site in the spring to fall period, i.e., between ice break-up and ice freeze-up. In summer, the moose is frequently found in or near water, feeding on aquatic plants, and can be hunted from water during that season. As a jaw fragment indicated a young adult, it could have been compatible with the suggested period of site occupation. For all of the excavated faunal remains, no antlers or antler fragments were found. It was assumed that antlers would not have been discarded at a kill site, as they might have been worked into tools. Of the possible explanations available, spring - summer occupation of the site could accommodate the hunting of large cervids before the antlers had re-grown or become sufficiently dense to remain preserved in the soil.

The beaver is habitually associated with an aquatic environment and might be taken at any time of the year. The bear and snowshoe

hare are more closely associated to a wooded habitat. While the mammalian faunal sample was considered inadequate for a clear seasonal interpretation of site occupation, the habits and habitats favored by the species represented were not considered incompatible with the suggested spring to fall occupation of the site.

The mammalian and icthyofaunal remains were considered compatible with an interpretation of Spring to Fall occupation, although they were not as reliable indicators of seasonality as the avifauna. The site may or may not have been continuously occupied during this period. There were poor indications for a winter period occupation, and it is likely that the inhabitants moved to a winter site location before freeze-up. All of the archaeological fauna are also currently found in the area, suggesting that the climate for the late prehistoric period was similar to that which exists now, and that the habitats have remained basically the same. Most of the fauna represented can be associated with an aquatic habitat - the fish, the birds, the beaver, and the moose in summer - which may indicate that aquatic environments were the most extensively exploited, at least during the period between ice break-up and freeze-up. These suggestions are compatible with the riverine site location and suggest that aquatic habitats were likely more productive of food resources than neighbouring wooded uplands. The faunal remains from the site indicated utilization of a variety of animal resources rather than reliance upon a single resource or species.

The latter part of the Neo-Indian period is referred to as the late prehistoric occupation of the site. The diagnostic lithic

artifacts of this period were the small side-notched projectile point types. While these points could perhaps be split into such types as Prairie, Plains, or Selkirk, all pertain to the same general period. Some of these projectile point specimens from this site may be related to Plains affiliated cultures and occupation of the site prior to the occupation by the Woodland Cree. Such occupations, however, were not distinguishable on the basis of projectile points alone, and they could not be distinguished stratigraphically, or by other diagnostic traits in the cultural assemblage, such as Plains type pottery. Moreover, the side-notched projectile points did occur in association with Clearwater Lake Punctate type pottery, presumably made by the Woodland Cree. These people were considered to have arrived in the area prior to the contact period, as early historic or contact period artifacts occurred stratigraphically later. Thus, the late prehistoric period was considered to pertain essentially to occupation by the Woodland Cree, possibly as early as A.D. 1500. While the main diagnostic artifacts appeared to be small side-notched projectile points and Clearwater Lake Punctate type pottery, other potentially differentiating characteristics of the associated lithic tool inventory can be given as follows:

Scrapers: There were few moderately sized scrapers, with most of small size. Overall forms varied widely, but the discoidal form was present.

Biface Edge Tools: Rare.

Small Bifaces: Did not appear to be present.

Drills: Present.

Large Bifaces: This was the most prominent artifact class present in the assemblage.

Biface Edge Tools: Rare.

Small Bifaces: Did not appear to be present.

Drills: Present.

Large Bifaces: This was the most prominent artifact class present in the assemblage.

6.2 BESANT COMPLEX

Only a small area of the site relating to the Besant period of occupation occurred in situ. The soil context was a Bt horizon orange color soil, and although no true stratigraphy was evident, the Besant cultural materials evidenced good (10 cm) vertical separation intermediate between the lower lying McKean complex occupation and the overlying late prehistoric period occupation. The artifacts recovered from this undisturbed zone included a projectile point (Plate 9, a), and 5 small scrapers (Plate 9, b-f). All of these artifacts were considered associated.

Artifact Description

Projectile Points

Specimen No. 2020 (Plate 9, a), of chert, was complete. The body sides were quite straight, with a slight convexity. One shoulder was straight and the other sloping. The basal portion of the point was quite asymmetrical. One of the notches was narrower and located more on the side, while the other notch was broader and extended to the corner. Both notches were ground. The base was slightly convex, had been thinned and was ground. One basal juncture was rounded and the other acute angled. The asymmetry of the basal attributes tended to make typological comparisons difficult. Some

similarities, however, were suggestive of possible affiliation to the Besant type of projectile point. The metric attributes of this specimen are given in Table 55.

Table 55. GcNj 2 Besant Component Projectile Point Metric Attributes

SPECIMEN NO.	L.	W.	T.	S.W.	B.W.	N.W.	N.D.	N.H.
2020	31.2	23.7	5.4	15.3	19.7	6.9	3.0	6.6

Scrapers

There were 5 scrapers associated with this component, including 2 of quartz, and 3 of chert. The metric attributes of these scrapers are given in Table 56. All of the scrapers were considered complete.

Table 56. GcNj 2 Besant Component Scraper Metric Attributes

	LENGTH	WIDTH	THICKNESS	MIN. E.	MAX. E.
Minimum	12.3	11.2	4.3	59°	73°
Maximum	21.0	16.6	7.6	84°	98°
Sx	76.1	67.9	27.5	625	832
$\bar{x}$	15.2	13.6	5.5	69°	83°
Median	14.0	14.6	5.5	70°	83°
N	5	5	5	9	10

Scrapers of Quartz

Both quartz scrapers (1978, 1989) had convex working edges located distally. One of the specimens (1978 - Plate 9, c), had 2 additional working edges, located bilaterally, 1 of which was straight in form, and the other convex in form. Both had a length dimension greater than the width, and both appeared made on indeterminate blank forms. Both scrapers were intermediate in overall form.

Scrapers of Chert

The 3 chert scrapers all had convex working edges located distally. There were 2 specimens (2023 - Plate 9, d; 2075 -

Plate 9, f), with an additional working edge, convex in form, and located laterally but alternately. One scraper (1981 - Plate 9, e), had 2 additional working edges, located bilaterally and convex in form, but 1 of these was also positioned alternately. Only 1 scraper (1981) had a width dimension greater than the length. There was 1 scraper (2023) which appeared to have been made on a flake blank form with striking platform located laterally and bulb of percussion ventrally. One scraper (2075) was possibley made on a bipolar blank form as some crushing was manifested on a laterally located polar area, and a facet perpendicular to this edge exhibited concoidal ripple marks originating from the opposite edge. One specimen (1981) was indeterminate in form and 2 scrapers (2023, 2075) were expanding in form towards the distal edge.

Although the foregoing described artifacts were the only ones recovered in situ, 2 other artifacts from other contexts probably related to this same component. One of these was a small biface (1300 - Plate 9, g) from a disturbed context, and a hafted graver (1241 - Plate 13, f) from an early component context. These specimens, possibly Besant, are nevertheless described in the sections dealing with their associative stratigraphic contexts.

Cultural Configurations

The distribution of in situ Besant complex materials appeared confined essentially to 1 square, in 8N, 1W. The dispersal of these remains are represented in Fig. 37. As this occupation appeared extremely limited in its undisturbed horizontal extent, the

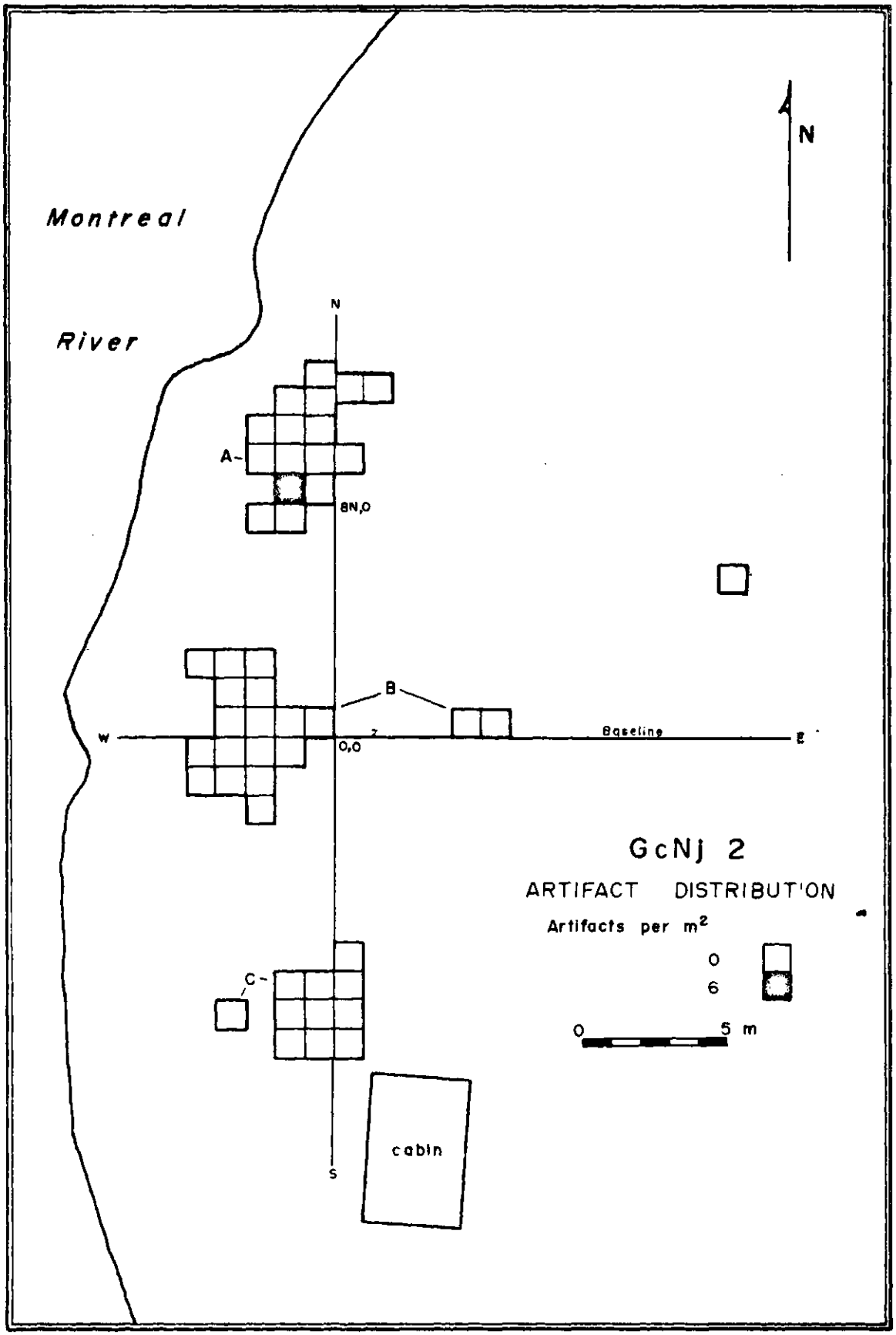


Figure 37. GcNj 2 Besant Component Artifact Distribution

significance of the cultural configuration could not be determined beyond noting the cluster of 5 small scrapers.

Conclusions

The Besant complex was considered poorly represented at the site, as few diagnostic artifacts could be attributed to this complex. Consequently, this site was interpreted as having been sporadically or lightly occupied during the period A.D. 300-700. The small scrapers recovered in situ were regarded as of potential diagnostic value because of their small size, multiplicity of working edges, and the presence of alternate working edges.

6.3 EARLY COMPONENT

The existence of this component was derived on the basis of relative dating, and the associated presence of projectile point types affiliated with the northern Plains and the early Meso-Indian period of culture-history. Stratigraphically, this component tended to exist mainly in the Bt soil zone in the undisturbed portions of the site. The lithic collection from this component is summarized in Table 57.

Table 57. Artifact Summary, Early Component, GcNj 2.

ARTIFACT CATEGORY		N	%
Projectile Points		7	0.42
Scrapers		14	0.85
Unifaces		20	1.22
Large Bifaces		1	0.06
Small Bifaces		4	0.24
Biface Edge Tools		1	0.06
Biface Fragments		20	1.22
Gravers		2	0.12
Atlatl Weight		1	0.06
Bipolar Cores:	A-A	1	0.36
	P-P	1	
	P-A	1	
	R-P	2	
	R-A	1	
Detritus		1564	95.36
	TOTAL	1640	99.97

Artifact Description

Projectile Points

There were 7 projectile points associated with this component (i.e., recovered from an undisturbed context). This sample included 5 specimens of quartz, 1 of chert, and 1 of fused shale. The metric attributes of these specimens are given in Table 58.

Specimen No. 989 (Plate 10, a) was recovered from area 'B' and was of chert. The body sides were convex in form and both shoulders were sloping. The stem form was corner-notched, and the notches had not been ground. The base of the specimen was straight, and had been thinned, but was unground. The attributes evidenced by this specimen showed some similarity to specimen No. 731, from a disturbed context, and both may have some affinity to the Hanna type of projectile point. That a possible relationship exists between the 2 specimens may be indicated by their relatively close proximity, as No. 731 was recovered from square 1N, 3W, and No. 989 from square 1S, 2W. Specimen No. 989 was recovered from a transitional matrix of gray-sandy Ae soil, and the lower orange Bt soil zone.

Specimen No. 986 (Plate 10, b), of quartz, was incomplete with lateral breakage and 1 base edge missing. The body sides were convex in form. Both shoulders were sloping, and the stem form was corner-notched. One corner-notch was angular and the other rounded. Both notches were unground. The base was incomplete as part had been removed with the loss of 1 basal edge. The remnant part of the base, however, indicated a slight concavity. The base had also been thinned and ground. This specimen, although incomplete, evidenced definite

similarities to the Hanna type of projectile point. These similarities and the proximity of this specimen to No. 989, strengthen the suggestion of the latter also being a Hanna type projectile point. The most notable differences between the 2 specimens morphologically was the crude flaking and ground base of specimen No. 986.

Specimen No. 395 (Plate 10, e), of quartz, was recovered from area 'B'. The body sides were convex, and no notching or stem was apparent. The overall form was triangular. The base was concave and had been thinned, but was unground. A large, rounded 'ear' formed the basal juncture on 1 side, and on the other, an apparently similar attribute had broken off. This specimen did not permit easy typological comparison as the pattern of attributes evidenced could represent either an Oxbow triangular type of projectile point (Dyck 1970: 13, 21) or reworking of McKean or Oxbow projectile point types.

Specimen No. 1400 (Plate 10, f), of quartz, was the only lanceolate projectile point recovered from area 'A'. This specimen was recovered from square 9N, 0, and was in association with cultural materials which were regarded as forming the earliest level of occupation for area 'A'. The body sides on the distal $\frac{1}{2}$ of the point were convex, while the sides on the proximal were straight and parallel. The sides of the basal portion were slightly incurvate due to steeper retouch in this area but lateral grinding was absent. The base was irregularly concave and had been thinned, but was unground. The basal juncture was formed by small lugs or 'ears' which projected proximally. One of these was rounded and the other was

square in form. The attributes of this projectile point were considered similar to those of the McKean type of projectile point.

Specimen No. 434 (Plate 10, g), of quartz, was reconstructed from 2 fragments and considered complete. The essential characteristics of this specimen were similar to those exhibited by specimen No. 1400. No. 434, however, had a more concave, or U-shaped base, and 1 of the basal 'ears' was broken near the extremity. This projectile point was also considered representative of the McKean type of point.

Specimen No. 1771 (Plate 10, i), of fused shale was 1 of the few artifacts and the only projectile point recovered in situ from area 'C'. This specimen had body sides of a slightly convex form. The basal form of the specimen was asymmetrical in that 1 basal 'ear' was missing due to breakage. Notching was present 1 side in the form of a broad, shallow notch which was ground. Although there was a slight incurvature of the specimen at the same point on the opposite side, a distinct notch was lacking and grinding was also absent. The base was markedly concave and had been thinned, but was unground. The attributes of this specimen were considered similar to those evidenced by the Oxbow type of projectile point.

Specimen No. 1901, of quartz, consisted of the basal portion of a projectile point and was recovered from square 11N, 1W. True notches were not present, but the sides were incurvate in the basal region, and suggested a lanceolate point form. Grinding was clearly evident on the bilateral incurvatures. The base was

slightly concave, had been thinned, and was lightly ground. The specimen was insufficiently complete to permit conclusive typological comparisons and identification, but the available attributes tended to suggest some affinity to the northern Plains early Meso-Indian types of projectile points.

Table 58. GcNj 2 Early Component Projectile Point Metric Attributes

SPECIMEN NO.	L.	W.	T.	S.W.	B.W.	N.W.	N.D.	N.H.
989	25.5	-	4.0	9.3	10.9	5.0	1.9	6.6
986	30.2	-	6.6	12.9	-	-	-	6.0
395	23.4	19.2	5.4	-	-	-	-	-
1400	33.9	17.1	6.0	15.8	16.3	-	-	-
434	38.8	15.5	5.6	14.5	15.0	-	-	-
1771	50.6	26.2	6.4	24.3	-	6.4	1.6	10.8
1901	-	-	6.8	17.4	20.0	-	-	-

Scrapers

There were 14 scrapers associated with the earliest occupations of the site, including 4 of quartz, 4 of chert, 5 of quartzite, and 1 of fused shale. The metric attributes of these specimens are given in Table 58. All of the specimens were considered to be complete, or nearly so.

Scrapers of Quartz

There were 3 quartz scrapers (428, 1047, 1946) with convex working edges located distally, and 1 specimen (1706) had a straight working edge, located distally. There was 1 scraper (428) with an additional working edge, located laterally and which was straight in form. Another specimen (1706) had 2 additional working edges, located bilaterally, with 1 edge straight in form and the other convex. There were 2 scrapers (428), (1706) with width dimensions

greater than the length. One specimen (428) appeared made on a flake blank with the striking platform located proximally and the bulb of percussion ventrally. One scraper (1946) was heavily battered on the proximal polar end and was suggestive of bipolar compression shatter. There were 3 specimens (428; 1047 - Plate 11 c; 1946) expanding in form towards the distal end, and 1 scraper (1706) was contracting in form towards the distal end.

Scrapers of Chert

There were 3 chert scrapers (1790, 413, 1871) with convex working edges, located distally, and 1 scraper (401) had a convex working edge located laterally. All specimens had a length dimension greater than the width. None of the specimens retained characteristics of flake blank forms and only 1 specimen (1790 - Plate 11, a), evidenced scarring which could be attributed to bipolar battering. These characteristics occurred on the proximal end of the artifact. There were 2 specimens (1790; 1871 - Plate 11, b) expanding in form towards the distal end, and 2 specimens (401, 413) were intermediate in form.

Scrapers of Quartzite

There were 3 quartzite scrapers (398, 1499, 1900) with convex working edges, located distally, and 2 scrapers (1000, 2046) with a convex working edge located laterally. Only 1 scraper (1900) (Plate 11, f) had additional working edges, located bilaterally, and these were straight in form. All specimens had length dimensions greater than width. There was 1 scraper (1499) made on a flake blank with striking platform located laterally and bulb of percussion

ventrally. The remaining scrapers were made on indeterminate blank forms. There were 4 scrapers (398, 1000, 1499, 1900) expanding in form towards the distal end, and 1 scraper (2046 - Plate 11, e), may have been used for multiple purposes as a graver tip also appeared present, located laterally.

Table 59. GcNj 2 Early Component Scraper Metric Attributes

	LENGTH	WIDTH	THICKNESS	MIN. E.	MAX. E.
Minimum	13.8	13.2	4.9	63°	80°
Maximum	71.5	52.8	16.7	85°	118°
Sx	504.3	357.9	128.8	1343°	1690°
x	36.0	25.6	9.2	71°	94°
Median	34.4	21.8	9.0	68°	94°
N	14	14	14	19	18

Scraper of Fused Shale

This scraper (708 - Plate 11, d) had a convex working edge, located distally, and the length of the specimen was greater than the width. The specimen appeared made on a flake blank form with the striking platform located proximally and the bulb of percussion ventrally, although both attributes were missing due to breakage. The overall form was expanding towards the distal end.

Unifaces

There were 20 unifaces associated with the early component of the site, including 4 of quartz, 15 of chert, and 1 of quartzite. The metric attributes of this class are given in Table 60. Several of the unifaces were broken but only the length and width dimensions of 2 specimens (1860, 2088) were unrecorded. The only formal attribute noted from these specimens was the presence of a single, convex working edge.

Unifaces of Quartz

There was 1 quartz uniface (1696) which had a single working edge, located laterally, and which was straight in form. The other uniface (468 - Plate 12, d) appeared to have 3 working edges, located distally and bilaterally. The distal edge on this specimen was basically convex, but denticulate, and the lateral edges were straight in form. One of the unifaces (1696) was characterized by edge retouch while the other (468) exhibited extensive flaking over the dorsal surface. Both specimens were made on indeterminate blank forms and both were intermediate in form.

Unifaces of Chert

There were 6 chert unifaces (260, 474, 1449, 1453, 1882, 1940) which had a single working edge, located laterally. On 2 of these specimens (474; 1940 - Plate 12, f) this edge was convex in form, and on specimen No. 1940 part of this edge was located alternately. On 2 of the unifaces (260; 1453 - Plate 12, a) the working edge was straight in form, and on 2 other specimens (1449, 1882) it was concave in form. There were 2 unifaces (1660, 1661) with a single working edge located distally, but on 1 specimen (1660) this edge was convex in form, while on the other (1661) it was straight in form. There were 4 unifaces with 2 working edges, located bilaterally. On 2 of these specimens, (475 - Plate 12, e; 1500 - Plate 12, c) both edges were convex in form, but on the other 2 specimens (1465, 1651), 1 working edge was convex in form and the opposite edge was straight in form. There were 2 more unifaces (1230, 1273) which also had 2 working

edges, but on these specimens the 1 edge was located distally and the second edge was located laterally. On 1 of these specimens (1273) both working edges were slightly sinuous, and on the other uniface, (1230) the distal edge was slightly sinuous and the lateral edge was incurvate. There was 1 uniface (1602 - Plate 12, g) which had 3 working edges, located distally and bilaterally. Both lateral edges on this specimen appeared fairly straight in form, while the distal edge was convex in form. The edges on this specimen were also denticulate. Most of the chert unifaces were characterized by edge retouch only, although 1 specimen (1651) exhibited extensive flaking over the dorsal surface. There were 5 unifaces (474, 475, 1500, 1602, 1940) that appeared to be made on flake blanks and all had striking platforms located proximally. The bulbs of percussion were located ventrally on 4 of these specimens, and dorsally on 1 specimen (474). There were 9 unifaces which appeared made on indeterminate blank forms, and there was 1 specimen (1661) that was possibly made on a blank form produced by the bipolar knapping method, as both lateral edges exhibited shatter marks. There were 6 unifaces (474, 475, 1273, 1465, 1602, 1660, expanding in form towards the distal end, 7 unifaces (260, 1230, 1449, 1453, 1661, 1882, 1940) were variable in form, and 2 unifaces (1500; 1651 - Plate 12, b) were contracting in form towards the distal end. The latter 2 specimens were considered to be distinctly pointed in form.

Uniface of Quartzite

This specimen (225) had 2 working edges, located bilaterally,

and both were convex in form. The specimen was characterized by edge retouch and was made on an indeterminate blank form. The overall form of this specimen was variable.

Table 60. GcNj 2 Early Component Uniface Metric Attributes

	LENGTH	WIDTH	THICKNESS
Minimum	14.4	9.4	4.0
Maximum	49.4	34.7	10.5
Sx	529.0	367.6	141.7
x	29.4	20.4	7.1
Median	26.8	20.0	7.2
N	18	18	20

Large Biface

There was a single large biface (1711), of quartz, recovered in association with the earliest occupation of the site. Although the specimen was broken proximally, the available metric attributes are given as Table 61. There appeared to be 3 working edges present on this specimen, all convex in form and located distally and bilaterally. This specimen was made on an indeterminate blank form, and the overall form was contracting towards the distal end, or was semi-ovate in form.

Table 61. GcNj 2 Early Component Large Biface Metric Attributes

SPECIMEN NO.	LENGTH	WIDTH	THICKNESS
1711	31.1	39.4	10.8

Small Bifaces

This sub-class was represented by 4 chert artifacts. Although 1 of the specimens (790 - Plate 13, a) appeared broken proximally

and distally, its length dimension was nevertheless recorded and also appears in Table 62 along with the metric attributes of the rest of the small bifaces.

Three of the small bifaces (790, 1730, 2054) had 2 working edges, located bilaterally. On 2 of the specimens (2054 - Plate 13, b; 1730 - Plate 13, d) both edges were convex in form, and on the other specimen (790), 1 edge was convex in form and the other was sinuous. There was 1 small biface (1408 - Plate 13, c) which had 4 convex working edges, located proximally, distally, and bilaterally. The specimens were finely worked and completely flaked bifacially, but only 1 specimen (790) showed fine secondary edge retouch. Two of the small bifaces (1730, 2054) had thinned bases and could have been hafted. One of these specimens (2054) also had 'lugs' or 'ears' projecting bilaterally from the base. Grinding of the bases on these 2 artifacts was not apparent. One of the artifacts (1730) appeared to have been made on a flake blank, as a striking platform remained at a basal corner, with the bulb of percussion located dorsally. Two of the small bifaces (790, 1730) were contracting in form towards the distal end and were considered generally ovate, and ovate-pointed or trianguloid in overall form. The other 2 specimens were intermediate in overall form and included a lanceolate (2054) form, and an ovate-rectanguloid form (1408).

Table 62. GcNj 2 Early Component Small Biface Metric Attributes

SPECIMEN NO.	LENGTH	WIDTH	THICKNESS
790	33.5	23.4	6.7
1408	29.9	24.3	8.3
1750	55.4	35.5	10.4
2054	47.1	20.4	10.2

Biface Edge Tool

There was a single biface edge tool (1212), of chert, recovered in association with the early component of the site. This specimen had a single working edge, located laterally, and which was convex in form. The artifact evidenced shatter marks and battering located proximally and distally, indicative of a blank formed by the bipolar stone working method. The overall form of the specimen was basically rectanguloid. The metric attributes of this specimen are given as Table 63.

Table 63. GcNj 2 Early Component Biface Edge Tool Metric Attributes

SPECIMEN NO.	LENGTH	WIDTH	THICKNESS
1212	27.2	22.5	8.9

Biface Fragments

There were 20 biface fragments recovered from the early component of the site, including 7 of quartz, 10 of chert, and 3 of quartzite. Several of the specimens had forms resembling tips possible broken from projectile points, large and small bifaces, and gravers. These included 5 of quartz (417, 475, 697, 1930, 2529), 4 of chert (243, 437, 1899, 2047), and 3 of quartzite (211, 410, 751).

Gravers

There were 2 gravers (1235, 1241) (Plate 13, e and f), of chert, recovered from the site. Both specimens were complete and their metric attributes are given in Table 64. Both gravers were completely worked bifacially and appeared to have been hafted. One of the gravers (1241) had side-notches which were slightly ground. The base was straight and had been thinned and ground. The overall morphology of the base was suggestive of the Besant type of projectile points, and the specimen may represent a reworked point. If such is the case, this specimen would be considered intrusive to the early component level from the later Besant complex.

The other graver (1235) had a concave base which had been formed by thinning and grinding. The lateral edges were convex in form and were unground. Both specimens had sharp graver tips which appeared to show some use-wear.

Table 64. GcNj 2 Early Component Graver Metric Attributes

SPECIMEN NO.	LENGTH	WIDTH	THICKNESS
1241	18.4	19.3	5.4
1233	16.5	14.3	5.2

Atlatl Weight

A single possible atlatl weight (1040 - Plate 13, g), of quartzite, was recovered in association with early component artifacts. The specimen appeared to represent the end of a split, water-worn cobble, with tentative indications of battering proximally and slight ventral grinding. The metric attributes of

this specimen are given in Table 65.

Table 65. GcNj 2 Early Component Atlatl Weight Metric Attributes

SPECIMEN NO.	LENGTH	WIDTH	THICKNESS
1040	57.0	18.4	15.3

Bipolar Cores

There were 6 bipolar cores recovered in association with the early prehistoric component of the site. The metric attributes of these specimens are given in Table 66.

Table 66. GcNj 2 Early Prehistoric Component Bipolar Core Metric Attributes

		A-A	P-P	P-A	R-P	R-A
LENGTH	Minimum	47.0	30.0	23.2	17.8	21.7
	Maximum				2.1	
WIDTH	Minimum	26.2	11.9	15.6	14.7	19.2
	Maximum				14.7	
THICKNESS	Minimum	11.6	8.3	10.4	5.9	19.2
	Maximum				7.8	
N		1	1	1	2	1

Cultural Configurations

Lithic Remains

The lithic artifacts of the early component did not evidence an even distribution (Fig. 38). The distribution of the artifacts may best be described in terms of the 3 main areas of excavation – areas 'A', 'B', and 'C'.

Area 'A'

Artifact Distribution

With the exception of the units located east of the N-S baseline

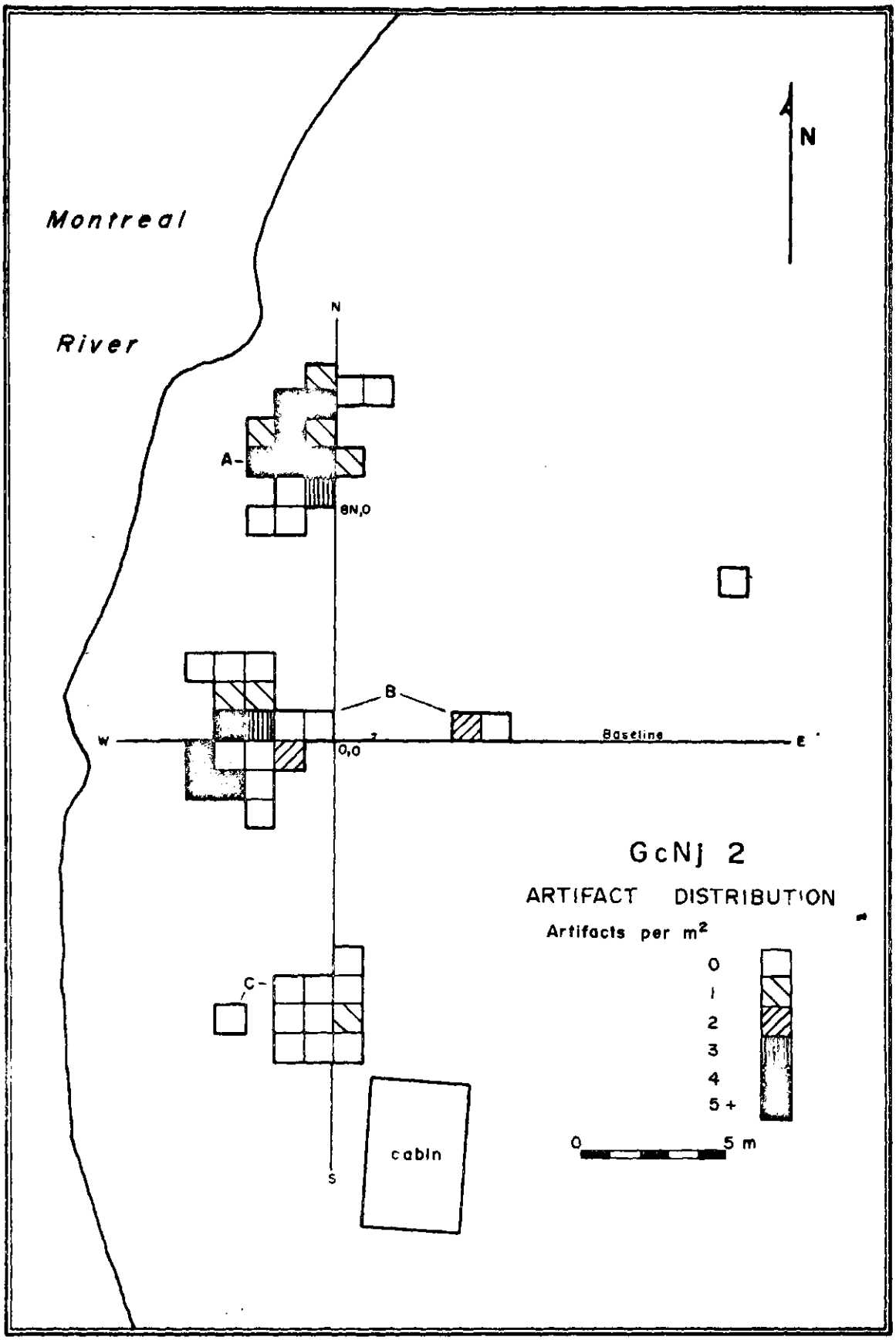


Figure 38. GcNj 2 Early Component Artifact Distribution

considerable confidence was placed in the artifact distribution represented, due to the clear stratigraphic and vertical separation of components. Although the artifact sample was fairly small, the distribution of each artifact class was plotted to determine if class clustering was apparent.

Unifaces were the artifact class with the largest representation and they appeared to show a limited distribution (Fig. 39). This distribution divided into separate clusters. The larger of these extended mainly through the 3 units west of the baseline, on a line 9 m N of the datum. The second uniface cluster consisted of 3 specimens located in the S.E. quadrant of unit 11N, 0. Both clusters seemed to exhibit considerable heterogeneity of attributes, and the groupings also were not considered significantly distinctive.

Bifaces were the next most numerous class and they also appeared to show a limited distribution within this area (Fig. 40). The small bifaces did not appear to cluster, but manifested a generalized distribution. The biface fragments, however, were more limited in their distribution and appeared generally concentrated along with the larger distributional pattern formed by the large and small bifaces. The projectile points did not cluster, but neither did they otherwise relate to the biface distribution. The biface configuration overlapped that of the unifaces, but formed a slightly different pattern.

The scrapers were the least numerous class from this area. The scrapers recovered did not form a compact cluster (Fig. 41)

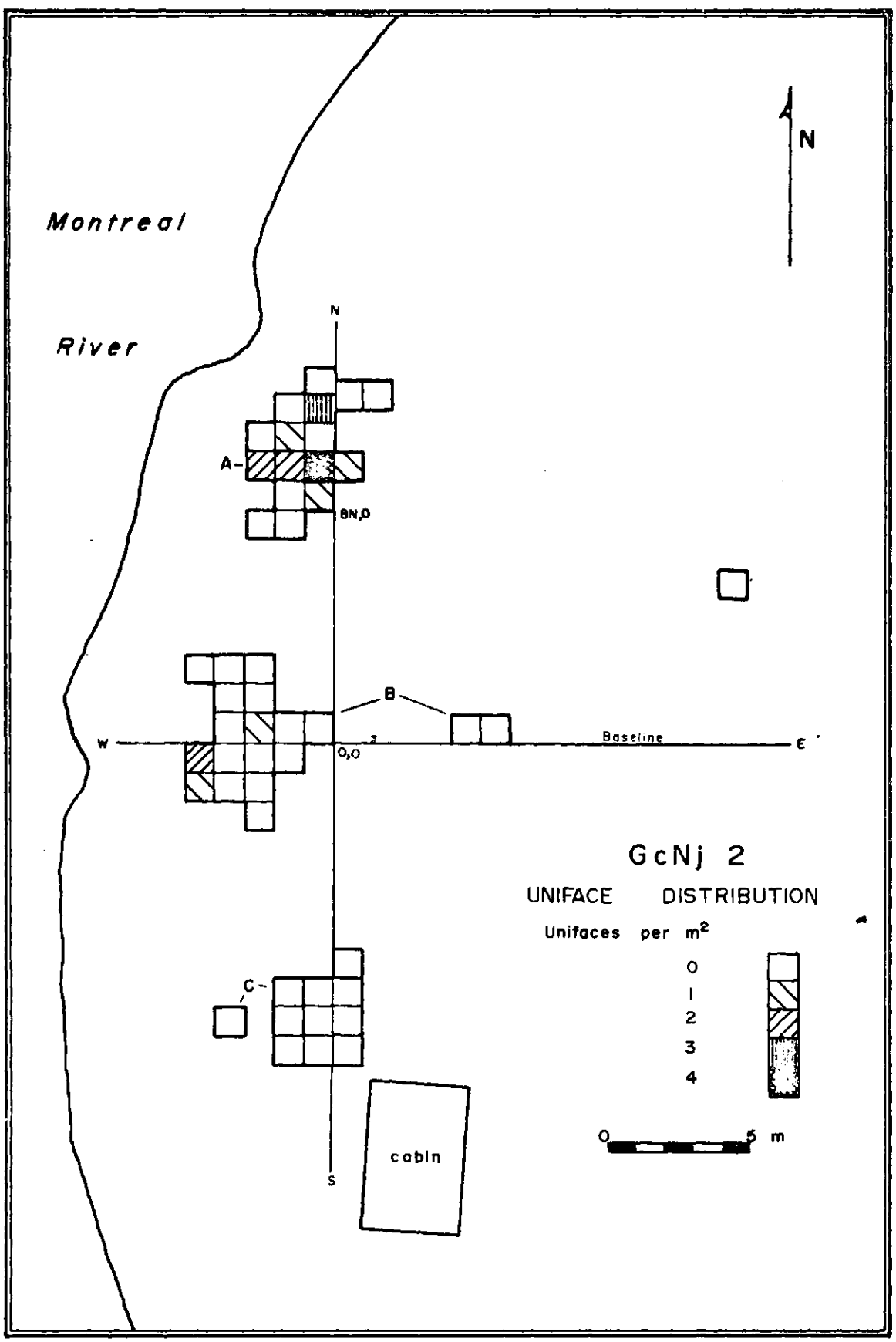


Figure 39. GcNj 2 Early Component Uniface Distribution

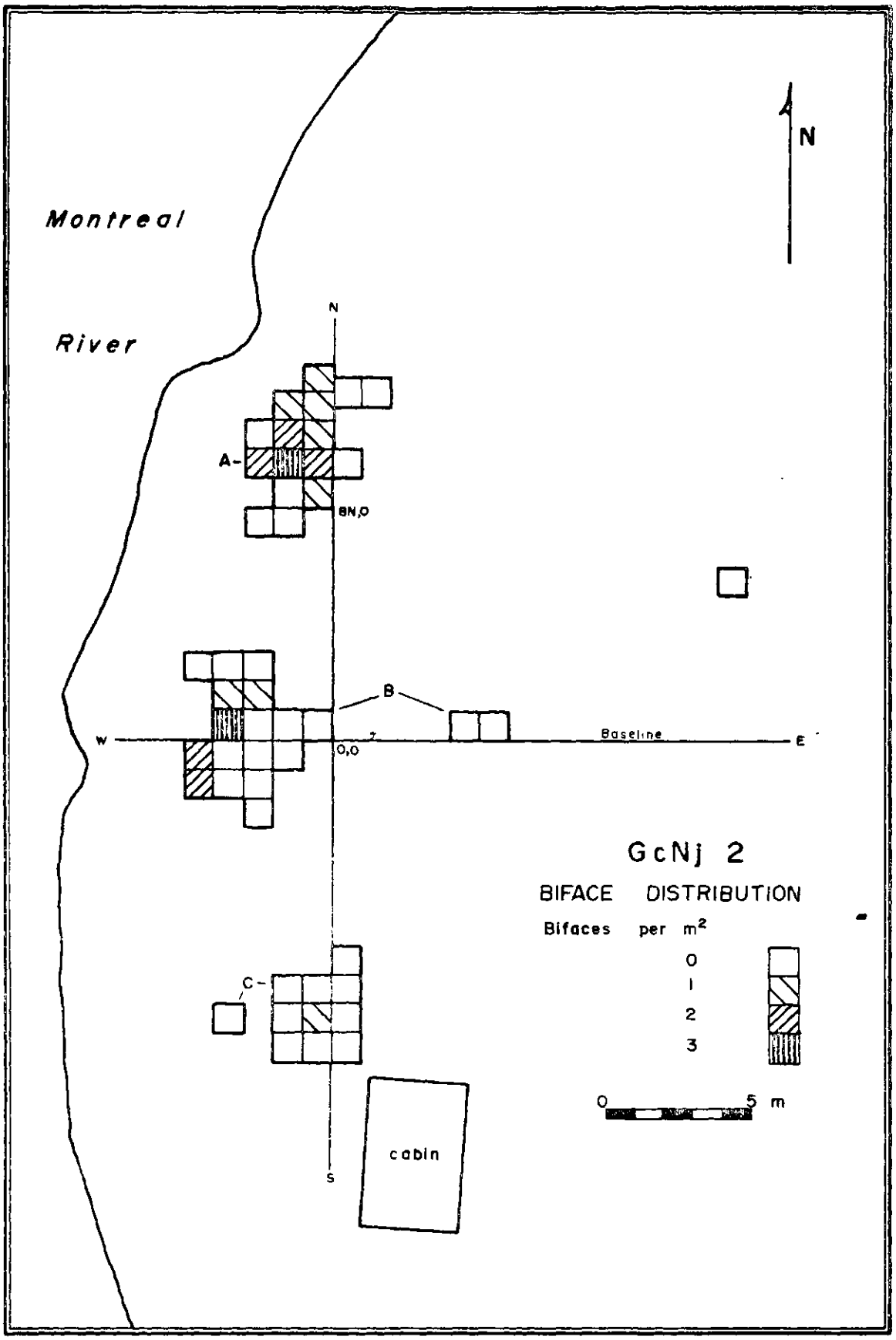


Figure 40. Early Component Biface Distribution

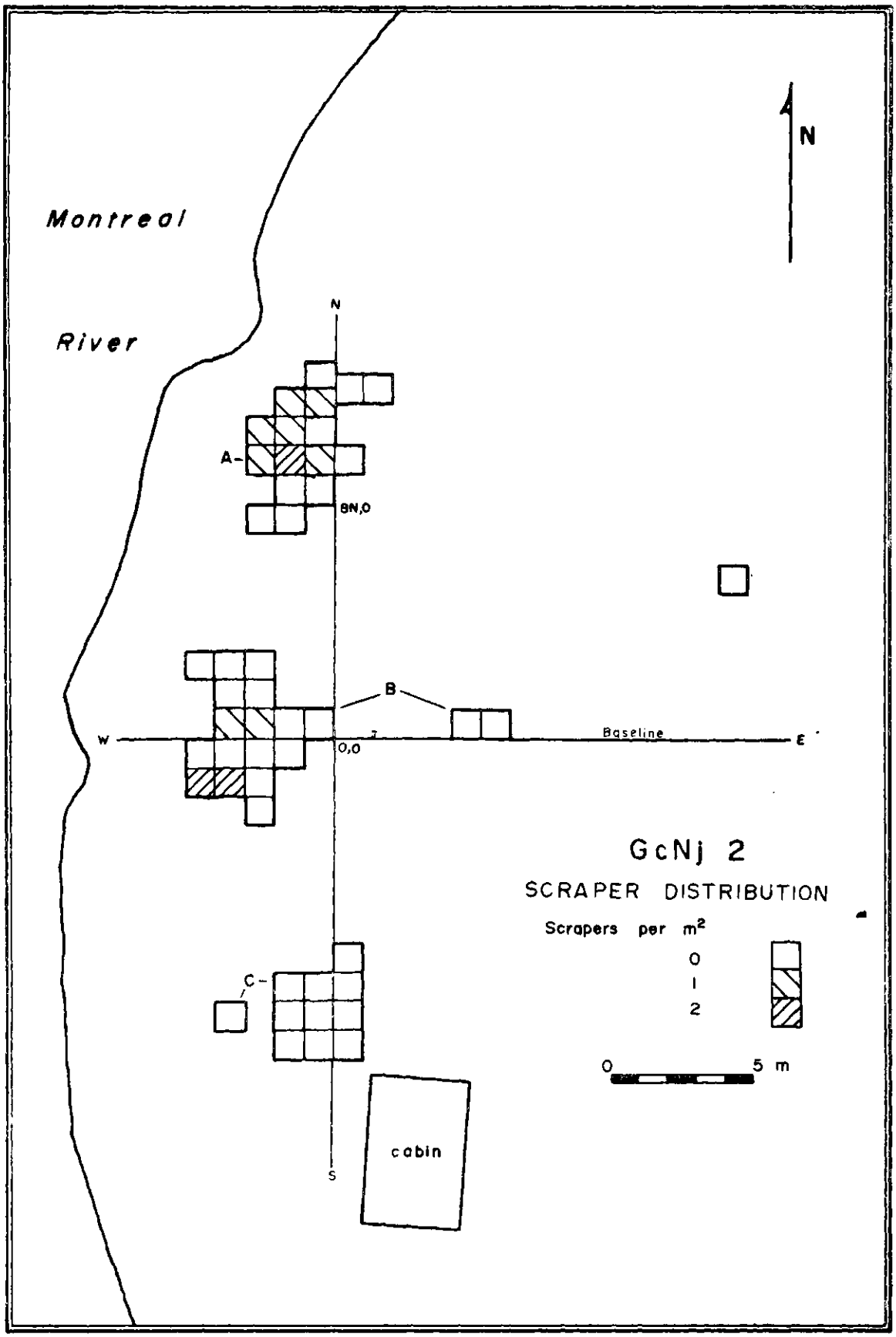


Figure 41. GcNj-2 Early Component Scraper Distribution

and overlapped the distribution of the other artifact classes. This spatial configuration appeared slightly different from that of the unifaces and bifaces in being slightly skewed towards the western part of the area.

Fig. 42 shows the distribution of the bipolar cores. In area 'A' there were 5 varieties represented, which did not form a tight cluster, but overlapped the distribution of artifact classes.

The density of lithic detritus is represented in Fig. 43. The pattern manifested indicated 2 clusterings within area 'A'. The larger of these was located west of the baseline, on a line 9m N of the datum. The second clustering centered on the square 12N, 0. These clusters roughly corresponded to the presence of 2 main chipping stations in the area.

Features

Chipping Station 1

This chipping station in area 'A' was concentrated in the W $\frac{1}{2}$ of square 9N, 1W, and extended slightly into the eastern part of square 9N, 2W. This chipping station included a great variety of quartz and quartzite, but consisted mostly of cherts. The detritus was composed mainly of small flakes and shatter, which suggested light percussion and pressure flaking knapping techniques. Consequently, this chipping station was interpreted as representing the final stages of tool manufacture, particularly as few pieces of detritus bore any cortex. Considering the variety of raw materials present, and the density of detritus, it appeared that several artifacts had been modified or new artifacts finished

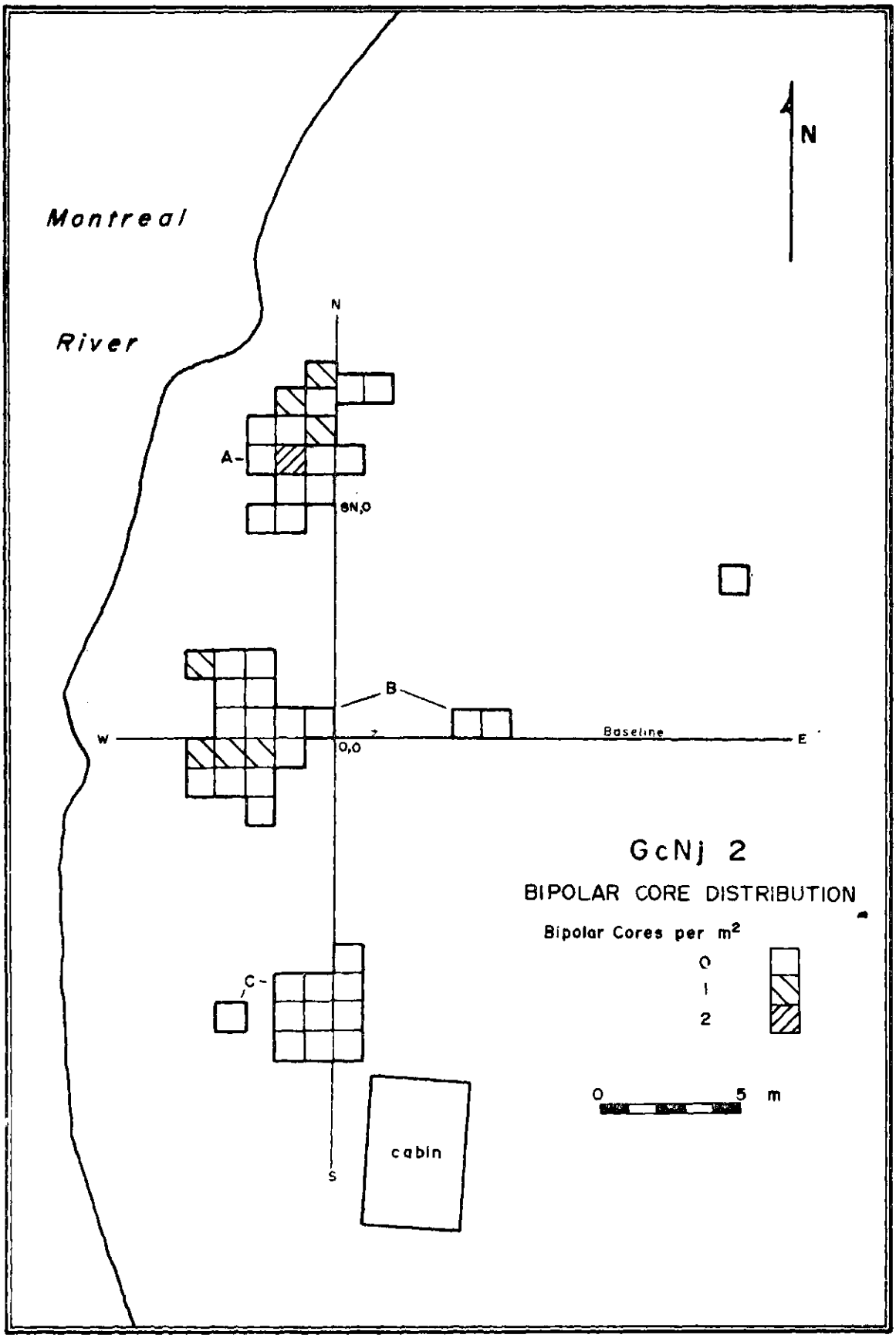


Figure 42. GcNj 2 Early Component Bipolar Core Distribution

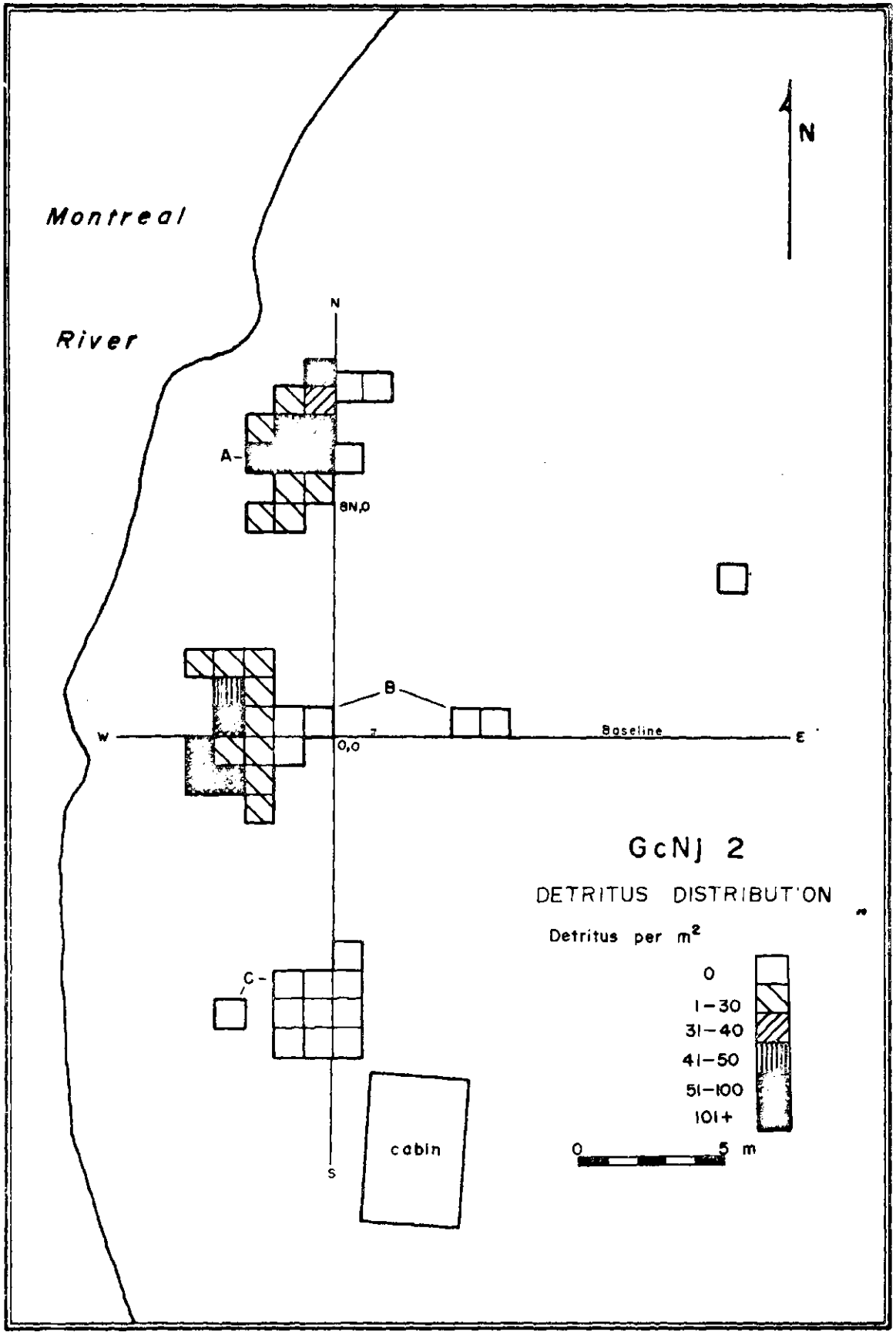


Figure 43. GcNj 2 Early Component Detritus Distribution

in this part of the area. The detritus appeared to be generally widespread throughout the area. The boundaries of this chipping station at large were determined arbitrarily on the basis that a detritus density of over 12 pieces per 400 square cm was included in the feature. There were 2 small bipolar cores considered associated with this chipping station. Within the overall distribution of this chipping station, 3 smaller concentrations could be distinguished on the basis of density, size of detritus, and distinctiveness of raw material. Concentration 1 was distinguished by detritus density, but was variable in character. Concentrations 2 and 3 consisted of detritus of a more moderate size, and may have represented a stage intermediate between core reduction and retouching artifacts, or the shaping of larger, finished artifacts by moderate percussion flaking with little fine retouching.

Chipping Station 2

This chipping station was located in square 12N, 0. The raw material consisted almost entirely of quartz shatter and the presence of cortex on several of the specimens suggested that primary core reduction had taken place at this location. The moderate size of the pieces of detritus indicated that a percussion flaking technique had been used.

Area 'B'

Artifact Distribution

Less confidence was placed in the artifact distribution pattern represented for this area (Fig. 38) than for area 'A', because there

was no reliable stratigraphic break between early component remains and the late prehistoric component.

In this area, bifaces were the most numerous class. This class did not cluster tightly, but evidenced a spatial configuration weighted towards greater representation in the western $\frac{1}{2}$ of the block area. The distribution of the biface sub-classes also did not appear to cluster, but had an overlapping distribution (Fig. 40).

The unifaces (Fig. 39) and scrapers (Fig. 41) were considered too small a sample for determining spatial clustering, particularly as strict horizontal provenience had not been maintained for the units excavated in 1972. The distribution of these classes, however, appeared to overlap that of the bifaces in the same area.

The distribution of the bipolar cores (Fig. 42) for this area also appeared insignificant. The density of lithic debittage was similarly weighted towards the western part of the area and no large concentrations were apparent. A single possible chipping station was located in the area.

Most of the projectile points associated with this component were recovered from this area (Fig. 44).

Features

Chipping Station 3

This chipping station was located in square 1N, 3W. This feature was located beneath rocks considered as constituting a feature belonging to the late prehistoric period. This specific temporal placement was based on the absence of potsherds and faunal remains from this level tended to suggest placement of the chipping station in the

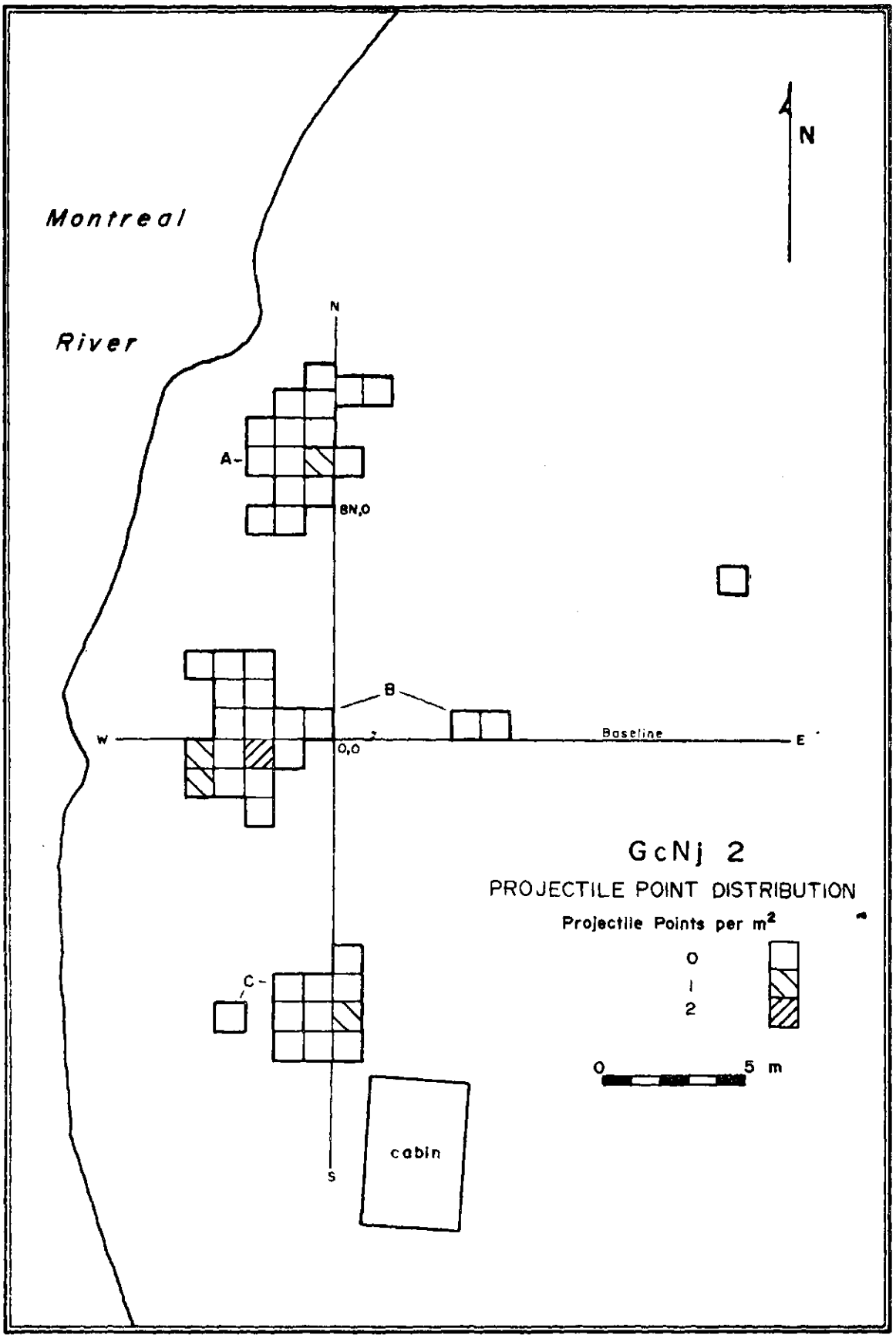


Figure 44. GcNj 2 Early Component Projectile Point Distribution

early prehistoric period. A more specific temporal placement could not be suggested as there were no associated projectile points of diagnostic types. The detritus consisted entirely of poor quality quartz. Most of the detritus was of moderate size, and there was an absence of decortication detritus. The character of this chipping station suggested a secondary state of stone working activity, decortication or primary core reduction having already taken place elsewhere utilizing a method of direct percussion, possibly combined with an anvil and hammer method. This was partly suggested by the presence of a few flakes with diffused and negative bulbs of percussion, and by small hinge fractures on 1 flake which indicated possible crushing. That some small size shatter was evident could indicate blank formation or production of an artifact finished by light percussion. The light density of detritus and relative homogeneity of material, together with a compact distribution, tended to suggest that the knapping activity involved only 1 or 2 cores.

Area 'C'

This area was so badly disturbed that only 2 artifacts of the early component period were recorded in situ. These included a biface fragment and an Oxbow projectile point.

Conclusions

The earliest occupation of the site is based on the morphology of several different types of projectile points. The 2 Oxbow type points may indicate the earliest occupation period of the site at about 2000 B.C. These points, however, at the time and in this place might only be slightly earlier than the McKean type of projectile

point. Although there was no definite instance of in situ association between these 2 types, a few specimens were found in the same vicinity (area 'C'). Only 1 Oxbow point was found in an undisturbed context, which was a Bt soil horizon, at a depth comparable to McKean points from other parts of the site. If specimen No. 395, however, is considered as representative of the un-notched Oxbow type point, then the probability of contemporaneity between Oxbow and McKean is strengthened, as this specimen was excavated in apparent association with specimen No. 434, a McKean type point. Furthermore, at the north end of the site, (area 'A') where some stratigraphy was available, there was only 1 occupation level indicated for the early Meso-Indian period, and this level contained a McKean type point. Thus, Oxbow and McKean points are taken as indicators of the first periods of occupation at the site. This period of occupation could be dated at approximately 1500 B.C., based on radiocarbon dates of 1410 B.C. for the Oxbow component at the Harder site (Dyck 1970: 25), and 1445 ± 200 B.C. for a possible McKean component at the Mortlach site (Wettlaufer 1955: 58). Later Meso-Indian occupations of the site were suggested by projectile points tentatively designated as Duncan and Hanna types.

The lithic artifacts associated with the above projectile point types showed differing morphological characteristics to the tool inventory associated with the late prehistoric period. These differences, however, should be considered tentative and relative rather than of intrinsically diagnostic value as these conclusions

are based on a limited sample size. The characteristics of this inventory are best referred to by considering the various classes and sub-classes of artifacts.

Scrapers

Early component scrapers were relatively larger than those of the late prehistoric period. Scrapers from the early component also appeared to divide into 3 groups on the basis of size alone, which consisted mainly of large size and moderate size scrapers, with few small size scrapers present. The overall forms tended to be highly variable, but with an absence of the discoidal form of scraper.

Unifaces

Early component unifaces were very heterogenous in character as 6 specimens, most of which were broken, might also have been classed as scrapers, but for the irregularity of the forms. Slightly concave, steeply retouched edges occurred on a few specimens and were suggestive of spoke-shave like functions. A few blade-like specimens also occurred. Two of these were pointed and 1 may have been hafted as a knife. Also included with the unifaces were 2 denticulate artifacts.

Biface Edge Tools

Biface edge tools were uncommon in the early prehistoric component, with only 1 specimen recovered.

Small Bifaces

Small bifaces were a sub-class characteristic of the early prehistoric component. These small bifaces were shaped to various overall forms, with some edge retouch, and 1 specimen was hafted.

Biface Fragments

Biface fragments were the most numerous biface sub-class associated with the early prehistoric period, and many specimens probably represented broken projectile points or small bifaces.

Gravers

There were 2 gravers present in the assemblage and both were probably hafted.

Atlatl

A single atlatl weight was present.

Considering that extensive excavations were not undertaken, and the apparently high degree of component mixing, it was difficult to interpret the cultural configurations manifested by early component materials. Conclusions reached in regard to the observations made were based on certain assumptions and regarded as mainly propositional. The distribution of the different artifact classes, in themselves, were not considered as forming distinct groupings. The spatial pattern of the artifact classes overlapped with each other, and with the distribution of cores and detritus. Although all of the artifacts and detritus appeared associative, the diversity and density represented within the cultural configurations could not support an inference that the specimens were all functionally related.

The cultural configurations manifested in Area 'A' suggested that a range of activities had been carried out in a very localized area. This was based on the assumption that specialized functions could be related towards a main activity

such as maintenance of a habitation or subsistence related task. Beyond such generalization or speculation, however, no more substantial inference could be offered. That this activity was very limited in extent was only indicated in the southern part of the area, by a sharply demarcated distributional boundary which appeared to occur at about 9 m N of the datum.

The cultural configuration manifested in area 'B' was more difficult to interpret as much of the area had been disturbed. The focus of activity seemed to be concentrated in the western part of the main block area, but here the true pattern was obscured due to the lack of strict horizontal control during the 1972 excavations, and due to the presence of a late prehistoric component sunken hearth feature which had largely displaced the early component from square 1S, 2W.

Area 'C' lacked sufficient data recovered in situ to manifest a cultural configuration.

The nature of cultural activities carried out at the early component level were difficult to determine and limited in interpretation because of the lack of stratigraphy and limited excavation. Nevertheless, cultural configurations related to the early Meso-Indian period of occupation were indicated and tended to suggest that a range of activities or functions were performed, and concentrated in very localized areas of the site.

6.4 GcNj 2 INDETERMINATE COMPONENT

Materials from this component were recovered from a context

which was not clearly associated with the late prehistoric component or the early one, although the soil matrix appeared undisturbed. The soil matrix was usually a grey Ae horizon or transitional Ahe - Ae - Bt. Materials recovered from this context underlay the late prehistoric component, for pottery remains and faunal remains were never found to occur in association.

Artifact Description

This component occurred in only a few areas of the site, and was represented by a total assemblage of 4 artifacts.

Projectile Points

The metric attributes of the projectile points from the indeterminate component are given in Table 67.

Specimen No. 158, of fused shale, consisted of the distal body fragment of a projectile point above lateral notches. The body sides were convex in form, and the shoulders were straight. The incompleteness of the specimen did not permit typological comparisons.

Specimen No. 1814, of chert, was represented by the basal portion of a side - or corner-notched projectile point. There was steep retouch of the side-notches but they were unground. Typological comparisons were not possible due to the fragmentary nature of the specimen, but some similarity was noted to the basal portion of specimen No. 1649. No. 1814 was recovered from square 11N, 1W, and the circumstances of stratigraphic context and available attributes suggested possible affiliation to specimens Nos. 1816, and 1649.

No. 1649, of chert, (Plate 14, c) was broken distally. The body sides appeared convex in form and slightly asymmetrical. The shoulders were sloping. This specimen was corner-notched, but the notches were unground. The base was slightly irregular but mainly convex in form. The base had been thinned but was unground. Typological comparisons did not permit clear classification of this specimen with established projectile point types.

Specimen No. 1816 (Plate 14, d), of chert, was complete. The body sides were convex in form. One shoulder was straight and the other was sloping. This specimen was corner-notched or corner-removed, with a slightly expanding stem. There was some steep retouch of the notches but no grinding. The base form was irregularly straight and had been thinned,but was unground. Although this specimen was complete, typological comparisons did not permit clear classification of this projectile point with established point typologies.

Table 67. GcNj 2 Indeterminate Component Projectile Point Metric Attributes

SPECIMEN NO.	L.	W.	T.	S.W.	B.W.	N.W.	N.D.	N.H.
158	-	13.5	3.3	8.8	-	-	-	-
1814	-	-	5.9	11.2	14.3	-	-	7.7
1649	-	16.2	5.0	9.6	11.2	5.9	1.8	5.3
1816	29.3	16.3	4.0	8.8	9.0	-	-	-

Conclusions

Three of the 4 projectile points recovered from the indeterminate component were from area 'A'. These were specimens Nos. 1649, 1814, and 1816. As their general context was similar,

their distribution limited to 2 adjacent squares (11N, 0; 11N, 1W), and some of their attributes shared, it was considered that these specimens were potentially affiliated as to type and period of deposition. Although their extra-regional affiliation appeared indeterminate, their generally small size and presence of corner-removed to corner-notched attributes, as well as their relative stratigraphic position, tended to suggest a possible late Meso-Indian or early Neo-Indian period of occupation.

6.5 GcNj 2 DISTURBED COMPONENT

Materials from this component were recovered from a context which had been disturbed, mainly as the result of recent historic occupation activities. The disturbed component, then, consisted of artifacts probably representative of every period of site occupation.

The artifacts from this component are summarized in Table 68.

Table 68 GcNj 2 Artifact Summary, Disturbed Component

ARTIFACT CATEGORY		N	%
Projectile Points		18	1.65
Scrapers		35	3.21
Unifaces		23	2.11
Large Bifaces		6	0.55
Small Bifaces		4	0.37
Biface Edge Tool		1	0.09
Biface Fragments		8	0.73
Drills		2	0.18
Pipe		1	0.09
Bipolar Cores:	A-A	3	3.58
	P-P	3	
	P-A	2	
	R-P	8	
	R-A	10	
	R-R	13	
Detritus		953	87.43
	Total	1090	99.99

Artifact Description

Projectile Points

There were 18 projectile points recovered from the disturbed portions of the site. This included 10 specimens of chert, 5 of quartz, 1 of petrified wood and 2 of quartzite. There were 10 small side-notched projectile points, 3 notched points of larger size, 3 stemmed points, 1 triangular point and 1 lanceolate point. The metric attributes of these specimens are given in Table 69.

Small Side-notched Projectile Points

The 10 small side-notched projectile points included 7 of chert, 2 of quartz, and 1 of petrified wood. Two of the chert points were badly broken and were marginally analyzable. Specimen No. 871 was broken distally above the notches, which appeared shallow and unground. Specimen No. 1757 consisted of a point mid-section. The body sides were asymmetrical, with 1 edge straight and the other convex. The edges were sharp, formed by fine secondary retouch, and had a slightly serrated appearance. Other attributes were indeterminate. The remainder of the small side-notched projectile points fell into 2 groups, based on overall size alone.

There were 3 small side-notched projectile points of distinctively larger size than other similar looking specimens. These larger specimens were more similar in size to the larger specimens (42, 1735) from the late prehistoric component. Of the 3 specimens from the disturbed context, only 1 was fully complete, while the others were nearly complete, with breakages near the

distal end. Both of these specimens, however, were longer than the longest complete side-notched specimen of the small projectile point group.

Specimen No. 1310 (Plate 6, c), of chert, had convex body sides and slightly acute shoulders. One side-notch was rounded and the other was square. Both notches appeared ground. The base was slightly convex and had been thinned and ground. This specimen was considered to be of the late Plains side-notched type.

Specimen No. 1616 (Plate 6, e), of petrified wood, had convex body sides and straight shoulders. Both side-notches were U-shaped with 1 slightly straight along the stem, and both were ground. The base was slightly convex, and had been thinned and ground. This specimen was similar to late Plains side-notched projectile point types.

Specimen No. 1844 (Plate 6, d), of chert, was asymmetrical in overall form. Body sides were irregular but tended to be convex in form. One shoulder was straight and the other slightly acute. The side-notches were slightly square in form and had been ground. The base was slightly convex in form, and had been thinned and slightly smoothed. The total morphological pattern suggested a projectile point of Plains or Prairie side-notched type.

Although there were attribute differences among the 3 specimens constituting the group described above, there were greater general correspondences of characteristics among these 3 points than there were similarities of any 1 specimen from the group and any other projectile point from a disturbed context. The total

morphological pattern presented by these specimens, including the 2 points from the larger side-notched points from the late prehistoric component, suggested that a projectile point type was present which was distinct from the other side-notched projectile points from the site. The general homogeneity of attributes evidenced by this group indicated some similarity to the Prairie side-notched type (MacNeish 1958: 104).

There were 5 side-notched specimens constituting the projectile point group of smaller size. The points within this group, however, exhibited a greater range of variation in attributes than the previously described group. This group included 3 specimens of chert and 2 of quartz. One specimen appeared fully complete, 2 were nearly complete and 2 were indeterminate in completeness.

Specimen No. 1627 (Plate 6, f), of chert, was complete. The body sides were convex in form and shoulders were straight. The side-notches were narrow and shallow, leaving a broad stem. One side-notch was square and the other a rounded V-shape, and both were unground. The base was convex and had been thinned, but was unground. A specimen similar to this had been recovered from Southern Indian Lake in northern Manitoba by J.V. Wright (personal communication: 1974).

There were 2 complete, indeterminate projectile points of quartz.

Specimen No. 1623 (Plate 6, h) was asymmetrical in overall form. The body sides were convex and the shoulders were sloping. The side-notches were V-shaped, rounded and ground. The base was

characterized by a large, concave hinge fracture which could have represented breakage of the unmodified base form, although a basal edge could be indicative of an original convex base form, but grinding was not present on this remnant. This specimen variously possessed characteristics of Plains, Prairie, and Selkirk side-notched types. (MacNeish 1958: 103, 104 and plates).

Specimen No. 2044 (Plate 6, i) was similar to the previously described specimen, but had straight body sides. The shoulders were sloping and the side-notches were V-shaped, and ground. One notch was straight on the stem and the other rounded. A portion of the base appeared removed by concave breakage, but a basal remnant could have represented an originally convex base. Grinding did not appear present on the basal remnant. The general attritutes considered suggested similarities to Plains, Prairie and Selkirk side-notched projectile point types.

Specimen No. 1573 (Plate 6, j), of quartz, had been broken distally. The body sides were straight and shoulders were steeply sloping. The side-notches were V-shaped and rounded. Both notches were ground. The base was concave-convex in form and had been thinned, but was unground. The general morphological pattern suggested similarity to the Plains and Prairie side-notched types of projectile points.

Specimen No. 2048 (Plate 6, k), of quartz, had been broken proximally. The body sides were slightly convex in form and the shoulders were sloping. One side-notch was V-shaped and rounded, the other mostly missing through breakage. Both of the side-notches

were unground, and the base was entirely missing. The attributes present suggested some similarity to Plains, Prairie, and Selkirk side-notched projectile point types.

Among this second group of side-notched projectile points, of smaller size, there appeared to be considerable variability of attributes except for the overall small size and for the shallowness of the side-notches. The incompleteness of a few of the bases made an estimate of the similarity more difficult, as the basal form is often a key attribute. The interrelations or affiliations of these smaller side-notched points could only be assessed tentatively, both within this group, and to the small side-notched specimen from the late prehistoric period (No. 409).

Corner-notched Projectile Points

There were 3 corner-notched projectile points recovered from a disturbed context. Each of these was considerably different from the above described groups and from each other.

Specimen No. 2045, of chert, was missing the proximal end below the notches. The body portion of the point was quite long (28.5 mm), and finely flaked, with secondary retouch. The body sides were convex and shoulders straight. This specimen could have been side or corner-notched, and the notches had been ground.

Specimen No. 731, of quartz, was broken distally. The body sides were slightly convex and the shoulders were on 1 side straight, and slightly acute on the other. This specimen was considered corner-notched, with incurvate, broad, and deep notches. The notches had been steeply retouched but were unground. The base was slightly

concave and had been thinned, but was unground. The attributes of this specimen were not clearly comparable to established projectile point types, but a tentative similarity to the Hanna projectile point type seemed likely.

Specimen No. 1311 (Plate 10, h), of quartzite, was complete. The body sides were straight, with one shoulder sloping and the other straight. The side-notches were broad, rounded, shallow, and had been ground. The base was concave and had been thinned, but was unground. In proportion to the basal area of the specimen, the body of the point appeared short and broad. The attribute configuration of this specimen suggested similarity to the Oxbow type of projectile point. Although this specimen seemed fairly short, the squat body portion suggested reworking from a larger, possibly broken specimen.

Stemmed Projectile Points

There were 3 projectile points recovered from disturbed contexts which appeared to be fragments of stemmed projectile points.

Specimen No. 1588 (Plate 14, a), of quartz, consisted of a projectile point mid-section. This specimen had sloping shoulders, and a contracting, unground stem. The specimen was insufficiently complete to allow for adequate typological comparisons.

Specimen No. 2295 of quartz, consisted of the basal portion of a projectile point. This specimen had 1 shoulder remaining, which was sloping in form. The point was stemmed, with straight,

parallel sides which were ground below the shoulders. The base was slightly convex, and had been thinned but was unground. The specimen was insufficiently complete to allow for adequate typological comparisons.

Specimen No. 1677, of chert, appeared to be the basal fragment of a stemmed projectile point. This fragment consisted of the proximal end of the stem. The stem had slightly incurvate sides and was contracting towards the base, but the sides were unground. The base was convex, and had been thinned but was unground. Due to the incompleteness of the specimen, typological comparisons could not be made.

Triangular Projectile Point

There was 1 triangular point fragment recovered from a disturbed context. This specimen, No. 1200 (Plate 6, n), of chert, was broken distally. This specimen had slightly convex body sides, and there was no evidence of lateral grinding. The base was slightly convex and had been thinned, but was unground. The overall attributes of this specimen, except size, showed general similarity to specimen No. 871, from the late prehistoric period. This projectile point was not considered diagnostic as triangular projectile points often occur in different components and time periods.

Lanceolate Projectile Point

There was 1 lanceolate projectile point, No. 283 (Plate 10, d), of quartzite, recovered from a disturbed context. One body edge was convex in form, and the other was slightly irregular. The sides near the base had been thinned and ground, which gave a stemmed

appearance to the specimen. The base was concave and had been thinned, but was unground. The attributes of this specimen were considered diagnostic of the McKean type of projectile point.

Table 69. GcNj 2 Disturbed Component Projectile Point Metric Attributes

SPECIMEN NO.	L.	W.	T.	S.W.	B.W.	N.W.	N.D.	N.H.
871	-	-	3.2	12.0	15.0	-	-	5.2
1757	-	12.4	3.0	-	-	-	-	-
1310	23.8	14.0	4.0	9.3	12.6	2.1	1.9	6.6
1616	20.1	15.5	3.3	10.7	14.4	2.9	2.1	6.0
1844	25.8	17.0	5.1	11.6	15.2	2.5	2.1	6.1
1627	18.9	13.1	5.0	10.6	13.0	2.0	1.2	6.8
1623	17.2	13.8	3.5	8.9	12.4	5.0	2.1	4.6
2044	18.6	14.3	4.6	10.2	12.7	3.3	1.7	7.2
1573	13.5	13.5	2.5	10.9	13.5	4.5	1.0	4.5
2048	18.8	12.0	3.8	8.8	-	4.2	1.0	5.5
2045	-	19.2	5.0	11.2	-	-	-	-
731	28.7	19.2	5.4	10.9	13.7	7.5	2.8	6.3
1311	24.6	22.0	4.8	17.9	22.0	5.1	1.5	10.0
1588	-	22.4	8.8	15.6	-	-	-	-
2295	-	-	6.1	14.3	14.3	-	-	-
1677	-	-	5.2	15.7	9.6	-	-	-
1200	-	16.5	4.3	15.8	-	-	-	-
283	31.0	17.9	5.4	16.0	16.0	-	-	-

Scrapers

There were 35 scrapers recovered from disturbed contexts of the site, including 15 of quartz, 17 of chert, and 3 of quartzite. The metric attributes of these specimens appear in Table 70. There were 2 badly broken quartz scrapers, and the length dimension of 1 of these (348) was not recorded, as was not the width dimension of the other (1629). The only formal attributes noted from these specimens were that both had distally located working edges, convex in form.

Scrapers of Quartz

All of the quartz scrapers had convex working edges, located distally, and one of the specimens had additional working edges. There were 3 scrapers (176, 1640a, 1646) with a width dimension greater than the length. Possibly 1 scraper (1579) was made on a flake blank as the specimen appeared to exhibit a rough striking platform, located proximally, with the bulb of percussion located ventrally. There were 10 scrapers (234, 1129, 1220, 1421, 1536, 1579, 1640a, 1646, 1812, 2527) which manifested hinge fracturing and shatter marks attributed to the crushing forces associated with the bipolar knapping method. These characteristics occurred singly on all of the specimens, and all were located proximally. There were 9 scrapers (176, 234, 1129, 1249,1421,,1536, 1579,1812, 1825) expanding in form towards the distal working end, with the remainder of the scrapers intermediate or variable in form.

Scrapers of Chert

All of the chert scrapers had a working edge located distally and convex in form. There were 5 scrapers with an additional working edge, located laterally. This edge was convex in form on 1 specimen (1339), irregularly straight on 2 specimens (1279, 1697), concave on another (1772), and irregularly straight but located alternately on another specimen (1267). There were 2 scrapers with 2 additional working edges, located bilaterally. On 1 scraper (1076) both of these edges were convex, and on the other (1777) 1 edge was slightly denticulate and the other edge was straight. There were

4 scrapers (168, 1076, 1323, 2294,) with a width dimension greater than the length. There were 5 scrapers that appeared to be made on flake blanks. The striking platforms were absent on 3 specimens (1339, 1697, 1767) but appeared to have been located proximally. The striking platforms on 2 other specimens occurred laterally, being present on 1 specimen (1772) and absent on the other (2294). The bulbs of percussion occurred ventrally on all 5 scrapers. There were 2 scrapers (1111, 1231) formed by the modification of blanks apparently produced by the bipolar method. On both specimens concoidal ripple marks radiated from opposing polar areas along different facets, and the proximal ends evidences battering and shatter marks. There were 11 scrapers (1111, 1224, 1226, 1231, 1267, 1330, 1339, 1697, 1767, 1772, 2294) expanding in form towards the distal end, 4 were intermediate or variable in form (1076, 1279, 1777, 2000), and 2 specimens (168, 1323) contracting in form towards the distal end.

Scrapers of Quartzite

All 3 specimens had convex, distally located working edges. There was 1 scraper (1671) with an additional working edge, located laterally, and convex in form. There was 1 scraper (217) which appeared made on a flake blank, with striking platform located proximally and bulb of percussion ventrally. All were expanding in form towards the distal end.

Table 70. GcNj 2 Disturbed Component Scraper Metric Attributes

	LENGTH	WIDTH	THICKNESS	MIN.E.	MAX.E.
Minimum	12.3	10.8	3.5	52°	60°
Maximum	35.0	24.5	13.4	89°	141°
Sx	697.5	595.6	258.1	2935	3657
x	20.5	17.5	7.4	70°	91°
Median	19.6	17.8	7.0	70°	90°
N	34	34	35	42	40

Unifaces

There were 23 unifaces recovered from disturbed contexts in the site, including 5 of quartz, 15 of chert, 1 of quartzite, 1 of fused shale, and 1 of petrified wood. The metric attributes of this class are represented in Table 71. The metric attributes of 1 chert specimen (925) are not represented in the data as this uniface was very fragmentary. The only formal attribute noted from this specimen was the presence of a convex working edge. The length dimension of another uniface (1197) was also unrecorded due to breakage.

Unifaces of Quartz

There were 3 unifaces (374, 1690, 394) with a single working edge, located laterally. On 2 specimens (374, 1690) this edge was convex in form, and in 1 specimen (394) was fairly straight in form. One uniface (980) had 2 working edges, located bilaterally. On this specimen, 1 of the edges was straight and the other edge slightly concave in form. There was 1 uniface (1439) with 4 working edges, located proximally, distally, and bilaterally. All

were convex in form. There were 3 unifaces (374, 980, 1690) characterized by edge retouch, and the other 2 unifaces were characterized by larger flaking scars which also covered extensive portions of the dorsal surface. Only 1 of the unifaces (1690) appeared made on a flake blank, with striking platform located proximally and bulb of percussion dorsally. There were 3 unifaces (374, 980, 1439) made on indeterminate blank forms, and 1 uniface (394) appeared made on a bipolar blank form. This latter specimen evidenced shatter marks and battering scars on the proximal and distal ends. There was 1 specimen (980) contracting in form towards the distal end, and the remainder of the unifaces were intermediate in form, although 2 of these specimens (394, 1439) might also be considered ovate in form.

Unifaces of Chert

There were 3 chert unifaces (1209, 1286, 1440) with a single working edge, located laterally. On 1 of these unifaces (1209) the working edge was straight in form, on another (1286) it was convex in form, and on the third uniface (1440) it was irregular incurvate in form. There were 6 unifaces (717, 1197, 1606, 1779, 2130, 2292) with 2 working edges, located bilaterally on 5 of the specimens, and distally and unilaterally on 1 specimen (2130). On 2 of the unifaces (1606, 1779) both working edges were mainly straight in form, with 1 working edge on 1 specimen (1779) located alternately to the other edge, and on the other specimen (1606) part of 1 working edge had been retouched alternately to the rest of the edge. There were 2 unifaces (1197, 2292) with both working edges convex in

form. There was 1 uniface (2130) with an irregular convex distal working edge and an irregular concave lateral working edge, and parts of both edges had been formed by alternate retouch. There were 2 unifaces (51, 1033) with 3 working edges, located distally and bilaterally. All of the working edges on both specimens were convex in form, although on 1 specimen (1033) 1 of the lateral edges was positioned alternately. There were 3 unifaces (981, 518, 48)(Plate 14: i, j, k) with 4 working edges, located proximally, distally and bilaterally. Most of the working edges on these specimens were basically convex in form, but on 1 specimen (981) part of a lateral edge was slightly incurvate, and on all 3 specimens the working edges tended to be slightly denticulate. Most of these chert unifaces (51, 717, 981, 1033, 1197, 1209, 1286, 1440, 1606, 1779, 2130, 2292) appeared characterized by edge retouch, but some specimens (48, 518, 981, 2292) evidenced extensive flaking of the dorsal surface, and on 3 of these unifaces (48, 518, 981) tended to make the working edges somewhat denticulate in form. Only 1 of the unifaces (1033) appeared to retain characteristics indicating modification from a flake blank form with striking platform located proximally and bulb of percussion ventrally. There was 1 uniface (48) which evidenced battering scars, located proximally, and possibly indicative of modification from a blank produced by bipolar core reduction. There were 5 unifaces (51, 1033, 1197, 1209, 2130) expanding in form towards the distal end, and the remainder were intermediate or variable in form although 3 specimens (48, 518, 981) might be distinctly called ovate in form.

Unifaces of Miscellaneous Materials

This group included 1 specimen (1268) of petrified wood, 1 (1566) of fused shale, and 1 (840) of quartzite. There were 2 unifaces (1566, 840) with a single working edge, located laterally, and convex in form. The third uniface (1268) had 3 working edges, located distally and bilaterally. The distal edge and 1 of the lateral edges on this specimen were convex in form, and the other lateral edge was straight in form. All of the unifaces were characterized by edge retouch only. There was 1 uniface (1566) made on a flake blank form, with the striking platform located proximally and the bulb of percussion ventrally. The 2 other unifaces were made on indeterminate blank forms. There were 2 unifaces (840, 1566) expanding in form towards the distal end and 1 uniface (1268) was contracting in form towards the distal end.

Table 71. GcNj 2 Disturbed Component Uniface Metric Attributes

	LENGTH	WIDTH	THICKNESS
Minimum	21.9	12.7	4.0
Maximum	57.0	46.0	20.5
Sx	809.0	563.2	227.7
$\bar{x}$	38.5	25.6	10.4
Median	39.8	22.9	8.8
N	21	22	22

Large Bifaces

There were 6 large bifaces recovered from disturbed contexts of the site, including 5 of quartz, and 1 of greenstone. The metric attributes of these specimens are given in Table 72.

Large Bifaces of Quartz

There was a single large biface of (1347 - Plate 8, b) with a single convex working edge, located laterally. There were 3 large bifaces (833, 1633, 2049) with working edges located distally and bilaterally. Most of the working edges on these specimens were convex in form, with the exception of a lateral edge on 1 specimen (2049) which was sinuous in form. There was 1 large biface (1309) (Plate 8, d) with 4 working edges, located proximally, distally, and bilaterally, and all were convex in form. All of these large bifaces were made on indeterminate blank forms. There was 1 specimen (1633) which evidenced battering bilaterally and proximally. The overall forms included 1 specimen (1347) which was ovate-pointed, 1 specimen (833) that was ovate, 1 specimen (2049) that was semi-ovate, and 2 specimens (1309, 1633) which were discoidal in form.

Table 72. GcNj 2 Disturbed Component Large Biface Metric Attributes

SPECIMEN NO.	LENGTH	WIDTH	THICKNESS
833	75.3	55.1	20.7
1096	38.3	64.9	16.5
1309	51.2	45.8	14.5
1347	85.8	47.6	21.8
1633	49.8	47.0	21.6
2049	35.8	41.2	11.8

Large Biface of Greenstone

This artifact (1096) had a single convex working edge, located distally. Although this edge appeared to have been formed by the removal of fairly large flakes, the edge was instead characterized by heavy bifacial grinding. This specimen was made on an

indeterminate blank form, and did not evidence any battering. The overall form of the specimen was contracting towards the distal end, or semi-ovate.

Small Bifaces

There were 4 small bifaces recovered from disturbed conexts of the site, including 2 of chert, 1 of quartz, and 1 of sandstone. Although the quartz small biface (39) was broken proximally and distally, and 1 of the chert specimens (1300) was broken distally, their available metric attributes are also included in Table 73

Small Bifaces of Chert

There were only 2 small bifaces of chert recovered (304, 1300), but as 1 of these (1300) may be of potential diagnostic significance, they are best described separately.

Specimen No. 1300 (Plate 9, g) was broken distally. There was slight secondary retouch along the convex, lateral edges. A hafting element was present and consisted of side or corner-notches. The notches had been ground, and the convex, thinned basal edge was slightly smoothed. The morphological pattern presented by the attributes of this specimen were such that the artifact was considered to represent a Besant type knife or small biface.

The other small biface (304 - Plate 14, e) had 3 convex working edges, located distally and bilaterally. This specimen was expanding in form towards the distal edge, and was considered ovate-pointed in overall form.

Small Biface of Quartz

This specimen (39) was represented by 2 reconstructed fragments which formed a mid-section of a lanceolate small biface. The artifact had 2 working edges, located bilaterally, 1 of which was slightly convex in form and the other edge was irregularly straight in form. This artifact was contracting in form towards the distal end.

Small Biface of Sandstone

The base and sides of this specimen (1202 - Plate 14, b) were straight and the distal end was convex. Some bifacial flaking was evident along the edges, but the distal end appeared worn round and smooth through use. A hafting element was apparent as 2 shallow side-notches. The straight basal edge had been thinned. This specimen was incomplete as parts of the lateral edges had broken away.

Table 73. GcNj 2 Disturbed Component Small Biface Metric Attributes

SPECIMEN NO.	LENGTH	WIDTH	THICKNESS
39	37.1	23.7	6.9
304	28.4	15.7	7.4
1202	25.0	19.1	6.0
1300	52.7	38.2	8.6

Biface Edge Tool Fragment

A single specimen (284 - Plate 14, f) represented this sub-class and, although broken proximally, the metric attributes of this specimen are given in Table 74. This biface edge tool had 2 working edges, located bilaterally, and both were convex in form. This specimen appeared to have been made on a flake blank,

with the striking platform located laterally and the bulb of percussion located ventrally. This artifact also had a hafting element which consisted of a stem 17.5 mm in width. Grinding of the stem was not evident, and the base had not been modified following breakage. The overall form was asymmetrical ovate-pointed.

Table 74. GcNj 2 Disturbed Component Biface Edge Tool Metric Attributes

SPECIMEN NO.	LENGTH	WIDTH	THICKNESS	STEM WIDTH
284	30.2	22.3	5.5	17.5

Biface Fragments

There were 8 biface fragments recovered from the disturbed component of the site, including 3 of quartz, 4 of chert, and 1 of concreted material. One-half of these specimens resembled broken tip forms, possibly from projectile points, or large and small bifaces. These included 2 of quartz (1369, 1374) and 2 of chert (579, 1253).

Drill Fragments

There were 2 drills made of chert recovered from the disturbed context of the site. Although 1 of the specimens (1346) (Plate 14, g) was broken proximally, and the other (481 - Plate 14,h) was broken distally, the metric attributes of both specimens are given in Table 75. Both artifacts were worked bifacially, and had use-wear along their edges.

Table 75. GcNj 2 Disturbed Component Drill Metric Attributes

SPECIMEN NO.	LENGTH	WIDTH	THICKNESS
481	12.5	6.3	3.5
1346	21.4	10.5	6.3

Pipe Fragment

There was 1 pipe fragment recovered from the site. This specimen (1312) was of a schist-like material and was recovered from a disturbed context in area 'C'. The specimen appeared to have been broken during the manufacture process as evidenced by a split bowl and uncompleted cut marks. The bowl also appeared unburned. Fine cut marks on the surface suggested the use of a metal knife, and therefore a possible relationship to the historic contact period. The metric attributes of this specimen are given in Table 76. The method of bowl manufacture was accomplished by gouging with a sharp implement, and by drilling.

Table 76. GcNj 2 Disturbed Component Pipe Metric Attributes

SPECIMEN NO.	LENGTH	WIDTH	THICKNESS	BOWL DIA.	BOWL DEPTH
1312	48.2	21.4	9.9	8.5	12.1

Bipolar Cores

There were 39 bipolar cores recovered in association with the disturbed component of the site, including 28 of quartz and 11 of chert. The metric attributes of this sub-class are given in Table 77.

Table 77. GcNj 2 Disturbed Component Bipolar Core Metric Attributes

		A-A	P-P	P-A	R-P	R-A	R-R
LENGTH	Minimum	35.6	23.4	20.5	17.1	17.6	19.4
	Maximum	72.3	33.8	31.8	57.3	40.3	30.9
	Sx	163.7	81.8	52.3	249.8	310.9	315.8
	x	54.6	27.3	26.2	31.2	31.2	24.3
	Median	55.8	24.6	26.2	30.8	33.6	24.1
WIDTH	Minimum	39.1	6.9	9.4	10.4	13.1	11.9
	Maximum	48.7	17.6	21.9	40.6	30.0	26.3
	Sx	127.8	38.5	31.3	155.7	220.5	224.7
	x	42.6	12.8	15.7	19.5	22.0	17.3
	Median	40.0	14.0	15.7	18.3	21.9	17.7
THICKNESS	Minimum	27.7	5.3	7.2	5.6	5.0	4.7
	Maximum	36.9	14.7	10.0	15.3	21.4	12.7
	Sx	98.4	29.1	17.2	73.6	110.6	105.6
	x	32.8	9.7	8.6	9.2	11.1	8.1
	Median	34.3	9.1	8.6	8.9	11.2	8.0
N		3	3	2	8	10	13

Cultural Configurations

Artifact Distribution

Only lithic artifact distribution (Fig. 45) is considered, as the pottery recovered was all of the Clearwater Lake Punctate type, which was described under the Late Component section.

The distribution of projectile points occurred more frequently in areas 'A' and 'C' than 'B' (Fig. 46). This was in contrast to the distribution of scrapers (Fig. 47), which occurred most frequently in area 'B'. Unifaces again indicated a contrasting pattern (Fig. 48) with their occurrence more common in areas 'B' and 'C' than in 'A'. The bifaces appeared represented in all areas of the site, but with perhaps slightly greater frequency in the south part of area 'C' (Fig. 49).

In regard to debittage, the distribution of bipolar cores,

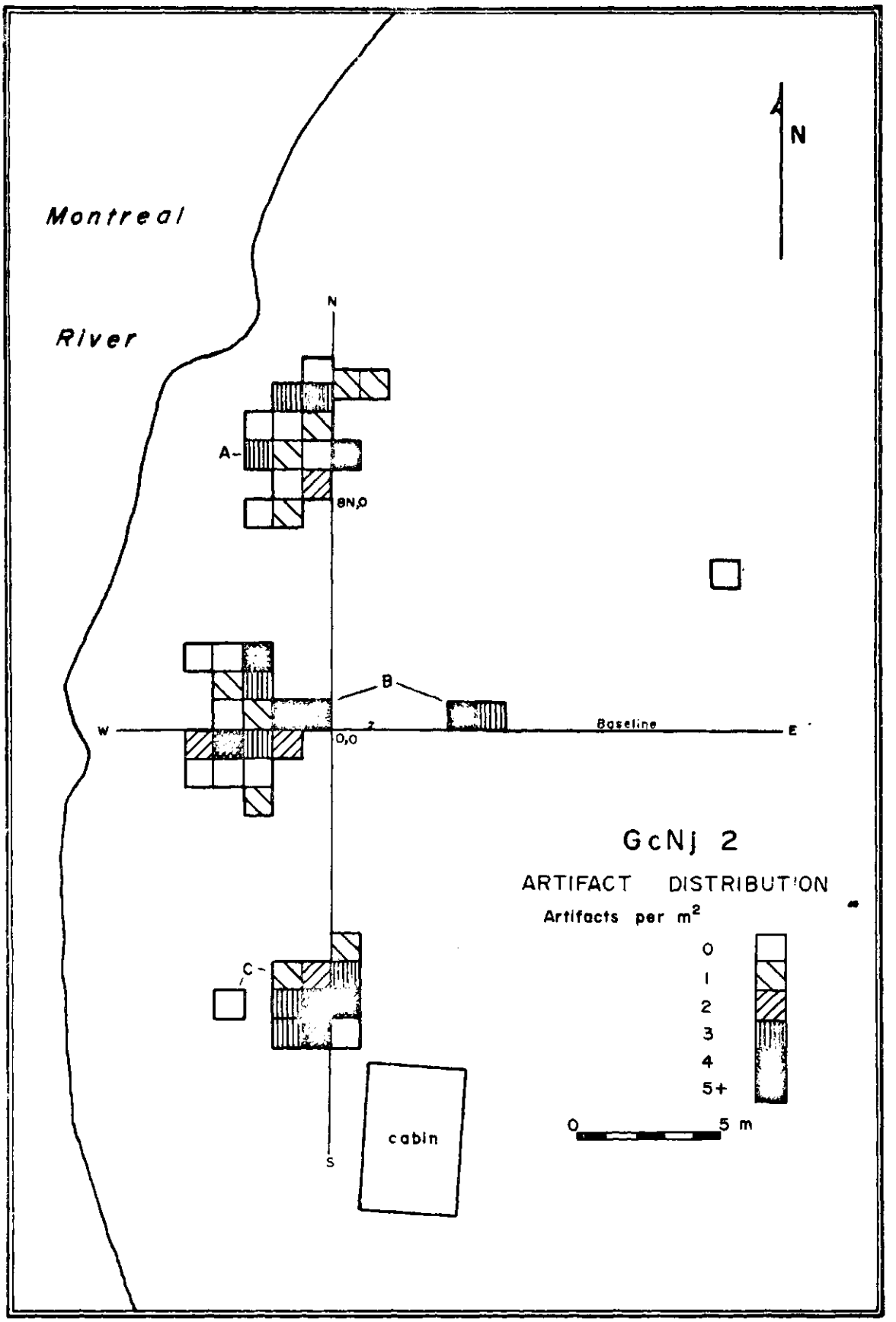


Figure 45. GcNj 2 Disturbed Component Artifact Distribution

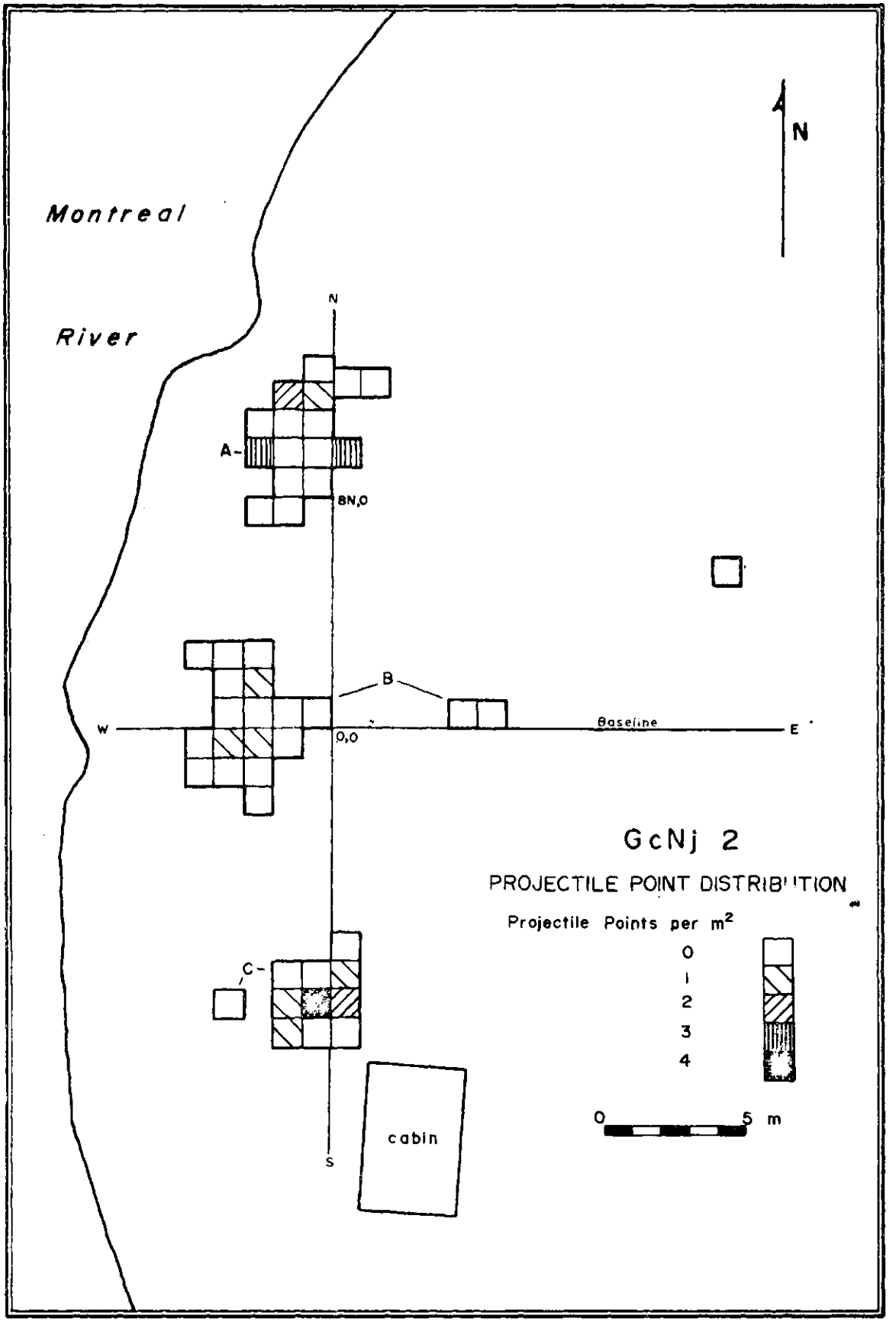


Figure 46. GcNj 2 Disturbed Component Projectile Point Distribution

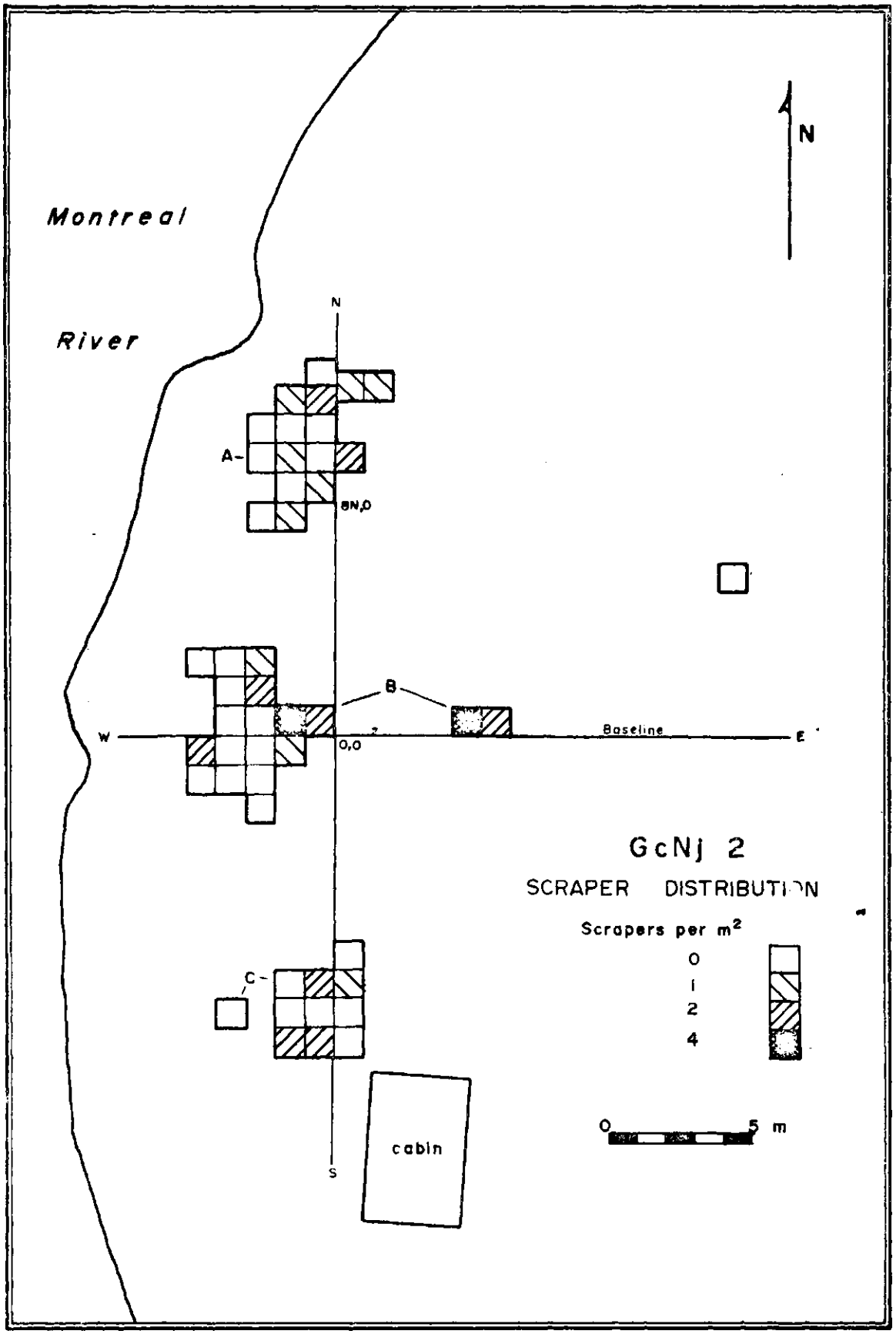


Figure 47. GcNj 2 Disturbed Component Scraper Distribution

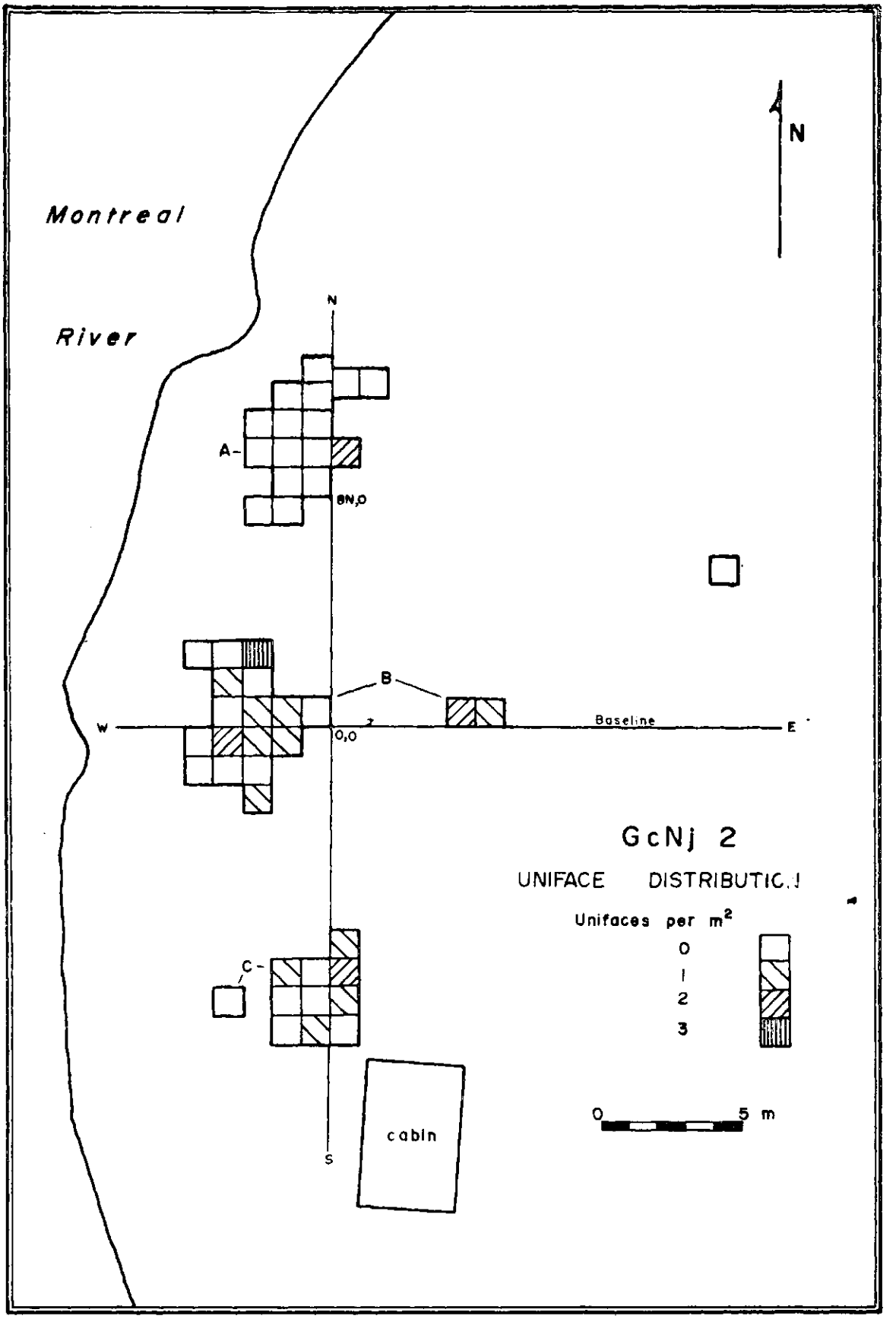


Figure 48. GcNj 2 Disturbed Component Uniface Distribution

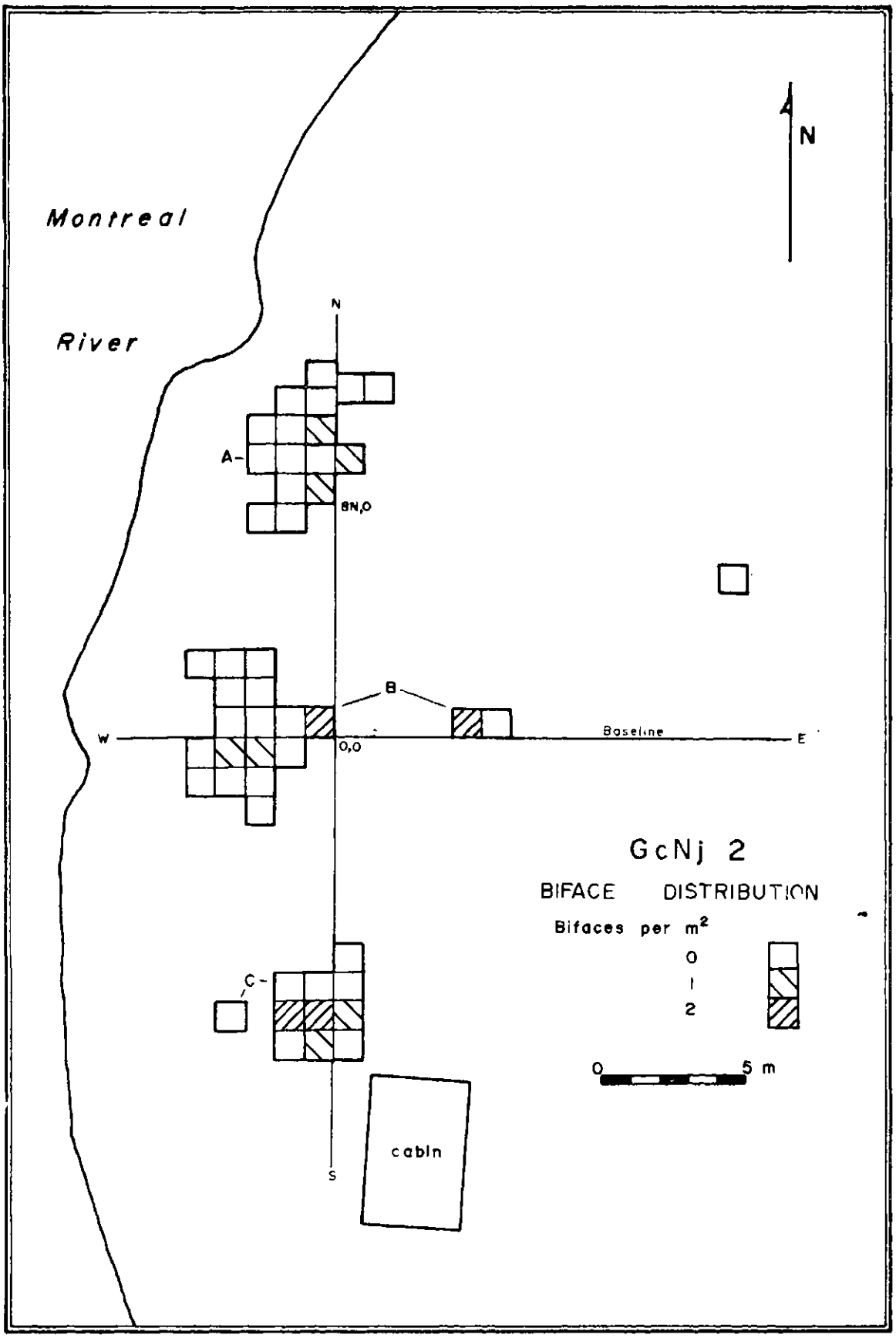


Figure 49 GcNj 2 Disturbed Component Biface Distribution

(Fig. 50) appeared to occur most frequently in area 'A', followed by areas 'B' and 'C', and evidenced a pattern similar to the distribution of detritus (Fig. 51).

Conclusions

The artifact collection from the disturbed component of the site was of considerable size. This collection also included numerous pottery fragments and faunal remains. Because of the disturbance, it was considered that the faunal remains might as well relate to a historic period of occupation and to a prehistoric one. For this reason the faunal remains were not described or analyzed. The pottery remains were all of the Clearwater Punctate type, as defined by Hlady (1971: 7, 8). As these were considered to relate to the Woodland Cree occupation, (Hlady 1971: 19), and were regarded as an important diagnostic element of the late prehistoric component, they were discussed along with the materials from the undisturbed component of that period.

In regard to the lithic remains, the projectile point class contained the most diagnostic artifacts, and showed considerable range in variation. The projectile points of the disturbed component included specimens of Oxbow, McKean, and possible Hanna projectile point types, which may have been deposited during the period 2000 - 1000 B.C. Other projectile points recovered were predominantly of the side-notched type. Although there appeared to be 2 types of small side-notched points present, it was uncertain that these types had any cultural reality, i.e., they could not definitely be regarded as representative of different occupations of the site at

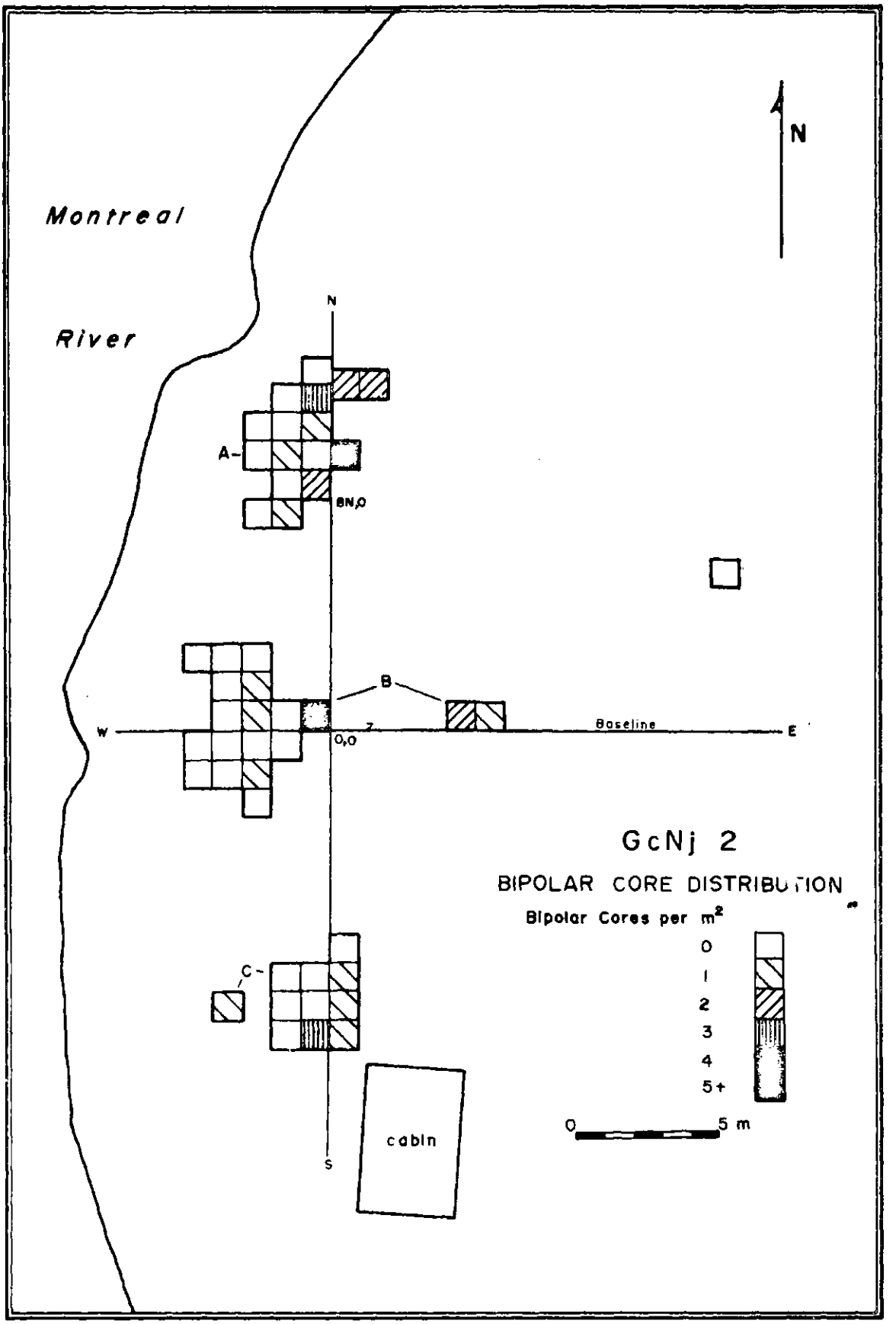


Figure 50. GcNj 2 Disturbed Component Bipolar Core Distribution

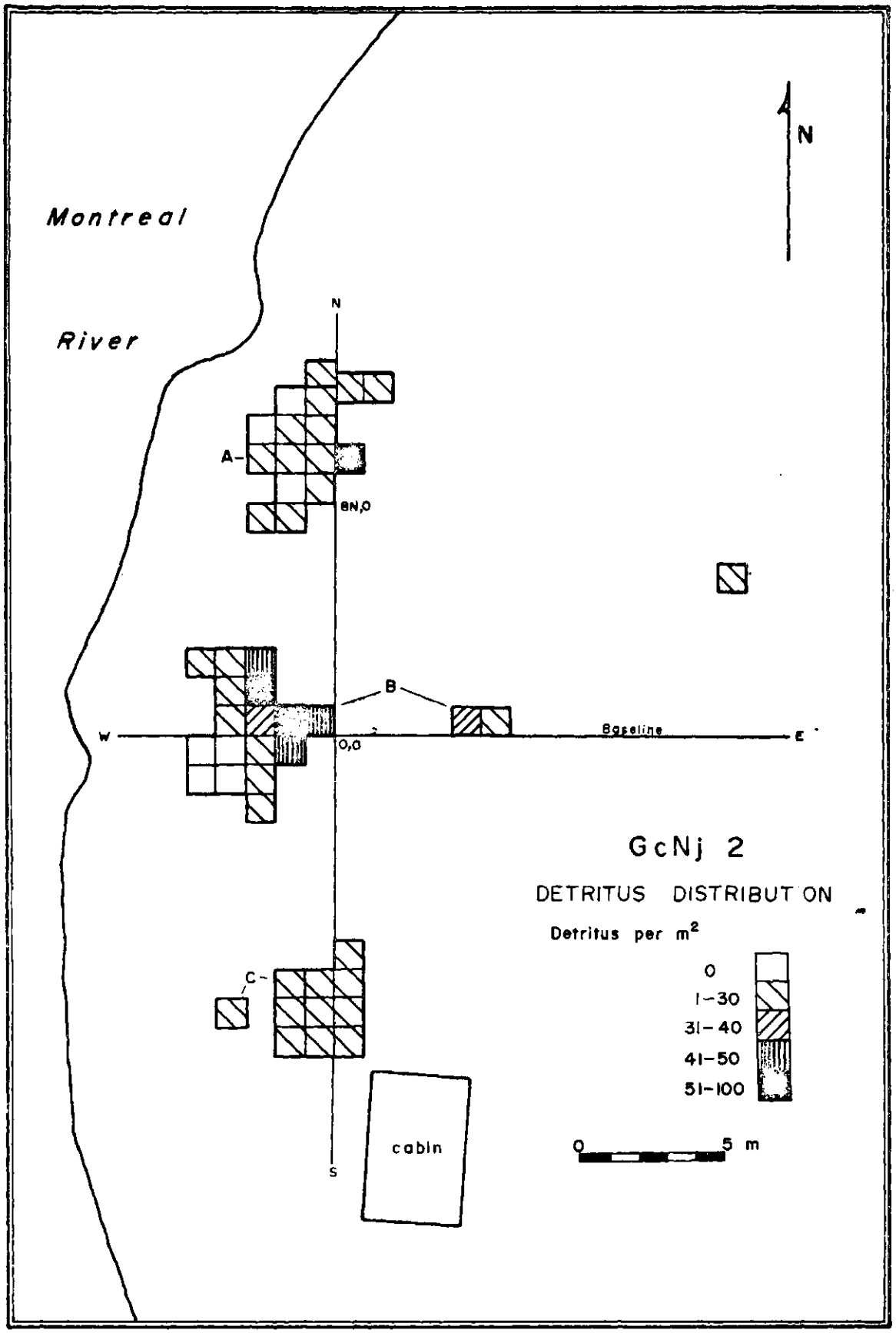


Figure 51. GcNj 2 Disturbed Component Detritus Distribution

different times, or by different tribes or peoples. Generally, the presence of these projectile points was regarded as indicative of occupations during the Neo-Indian period, and probably dates post A.D. 800 if they were not all associated with the late prehistoric component of A.D. 1500 - contact period.

Among the other artifacts, a small biface of Besant type suggested an additional occupation period ca. A.D. 300 - 700.

Due to the fragmentary nature of the 3 stemmed projectile points, they could not be compared typologically with any confidence. This problem was accentuated by their low frequency and the apparent variability of some attributes in this small group. As these 3 specimens were recovered from a disturbed context, it was considered that they indicated an as yet unidentified period of occupation intermediate to the Meso-Indian period of occupations and the late prehistoric period of occupations as represented by the small side-notched projectile points.

None of the artifact classes, disregarding bipolar cores and detritus appeared to follow the same distribution pattern as any other class, which could be taken as an indication that each of the classes considered had an independent reality which pertained to specialized artifact functions. Furthermore, that a number of differing classes appeared rather well represented in area 'B' might aid in defining the area as an activity locus of greater intensity than either of the other 2 areas.

PART III

8. CONCLUSIONS AND HYPOTHESES

The results of the archaeological program carried out at Montreal Lake indicated that several occupations of the area had existed in the prehistoric past. These occupations represented a broad temporal range and varied in character from 1 time period to another.

There appeared to be 2 major time periods in the prehistory of the Montreal Lake area which witnessed considerable occupation activity.

The 2 major occupation periods in the region were widely separated in time, and stratigraphic separation at 1 site (GcNj 2) was sufficiently good that the respective cultural complexes could be defined to include other artifact classes in addition to projectile points. Although the most diagnostic differences between complexes of the 2 periods were manifested in the projectile points and the presence/absence of pottery, these were not the sole limiting distinctions. Differences also existed between a few of the other artifact classes, although on a less diagnostic level. Some of these differences were differences in kind, for example, the size attribute of scrapers from the early component Meso-Indian period at GcNj 2 manifested a much greater range of variation than scrapers from the late prehistoric component. Other differences were proportional differences in the representations of certain artifact classes in the respective components, for example, large bifaces were more common in the late component at GcNj 2 (17.65%) than in the early component (1.43%). Widely disparate

proportional differences also existed for other artifact classes, most notably for biface fragments and bipolar cores.

Aside from the material culture differences for the 2 components, there also appeared to be some differences in the settlement pattern. The Meso-Indian period of occupation, as reflected by the Oxbow, McKean, Duncan, Hanna complexes, appeared to be well represented at only 2 sites (GcNj 2, 11) and poorly represented at 2 other sites (GcNj 4, 7). The late prehistoric component materials of the Woodland Cree, as manifested particularly by Clearwater Lake Punctate pottery, was not only present at all of these same sites, it was furthermore well represented at a number of other sites. Although most of these sites were riverine sites, 2 of the late component sites (GbNk 3, GcNj 6) were considered to be lake-oriented sites. This more widespread and prolific settlement pattern, particularly in view of the short time span involved, was considered to be highly significant.

The limited geographic occurence of the early Meso-Indian materials was interpreted as indicating the exploitation of highly localized resources within a relatively large region. These resources were possibly harvested by a small and cohesive group of people. The material culture representation and settlement pattern data of this period was also considered according to 2 further lines of interpretation.

The resources exploited by the people of this era were so highly localized and possibly limited that occupation of more than

the 2 most favoured site locations (GcNj 2, 11) was not practical from a logistics of strategic-harvest viewpoint; or that occupation of more than the 2 most favoured sites simultaneously could be indicative of a short-term population overload which resulted in a slightly more diffused settlement pattern, although still within the favoured resource region.

The second line of interpretation would argue for a less intensive but longer term exploitation of the available resources. In this viewpoint smaller groups of people would have occupied the area on a very intermitent basis, possibly less than for a full season, but over a relatively longer time span. This situation could also have resulted in the same amount of cultural deposition as represented by a short term, more intensive exploitation of the habitat by a larger group of people.

The interpretation for the late prehistoric period of occupation was considerably different. Only 1 site (GcNj 2) occupied by the Woodland Cree appeared to evidence the same intensive use as manifested by the relatively large deposition of cultural material from this late period. Other sites occupied by the Woodland Cree appeared to be less intensively used, but were more numerous and dispersed. The interpretation of this situation suggested 1 main alternative. A possibly greater population density in the late period may have necessitated the more dispersed settlement pattern and harvesting of resources from habitats which did not have the same high yield or ease of procurement as offered near the sites of GcNj 2 and 11.

The interpretation of the distinction between the settlement patterns of the 2 time periods is perhaps not only due to the differences in the technological aspects of their cultural traditions but also to their respective environmental relations. It has been suggested that the palaeo-environment of the Montreal Lake region may have been different at the time of Meso-Indian occupations than in the recent prehistoric past.

Whether or not the relationships between the cultural traditions of the 2 periods to their respective environments were such that a change in environment correlated with a cultural change is hypothetical. While this hypothesis is beyond the scope of this thesis, it indicates a need for future work in the reconstruction of a palaeo-environmental framework and its correlation to radiocarbon dated complexes.

Plate 1. Artifacts from GcNj 4.

a. Small side-notched projectile point base fragment.

b. Small side-notched projectile point.

c. Small side-notched projectile point base fragment.

d. Side-notched projectile point base fragment, possibly Besant.

e. Hafted scraper.

f. Side-notched projectile point base fragment, possibly Besant.

g. Meso-Indian projectile point base fragment, possibly Duncan.

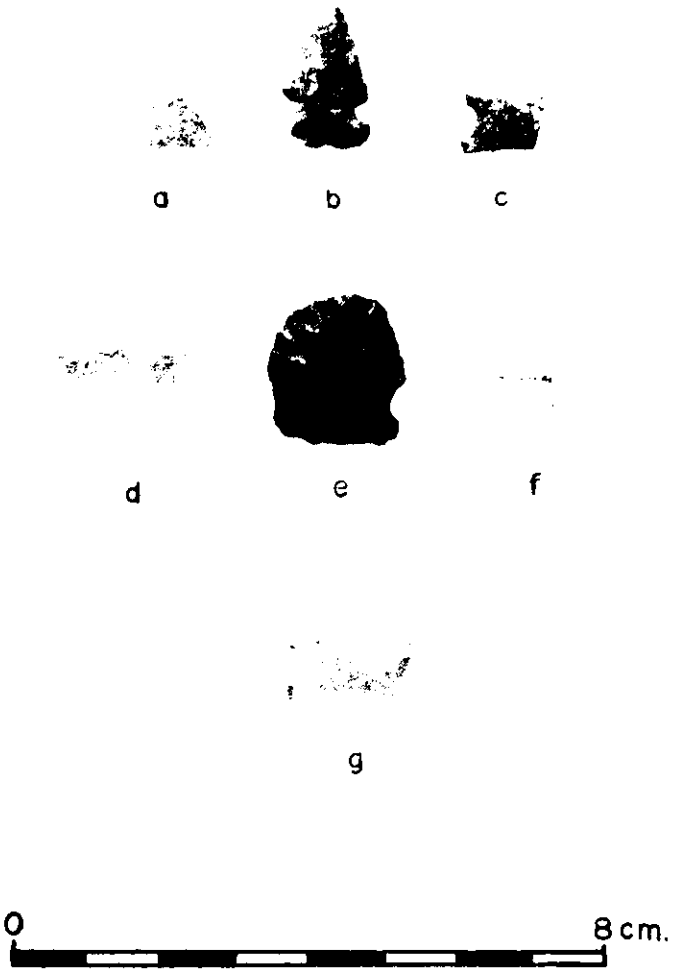

a
b
c
d
e
f
g
0
8 cm.

Plate 2. Projectile points from GcNj 11.

a. Hafted small biface or projectile point, possibly Besant.

b. Unidentified projectile point.

c. Hanna projectile point.

d. Hanna projectile point.

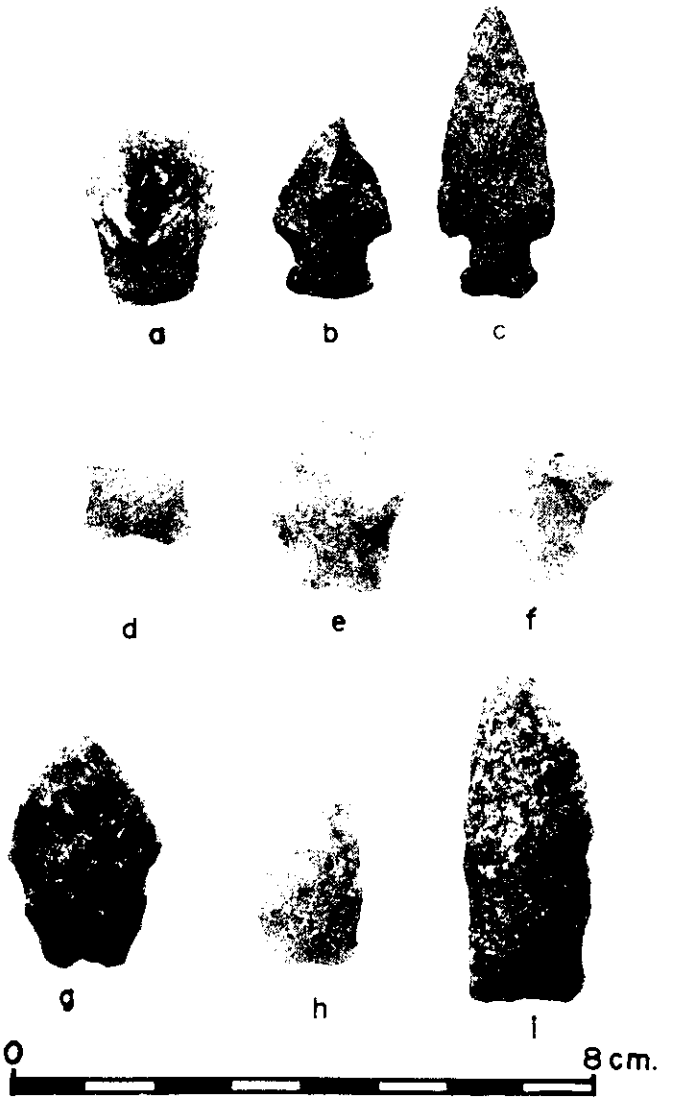
e. Duncan projectile point.

f. Duncan projectile point.

g. Duncan projectile point.

h. McKean or Duncan projectile point.

i. McKean or Duncan projectile point.


a
b
c
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e
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g
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i
0
8 cm.

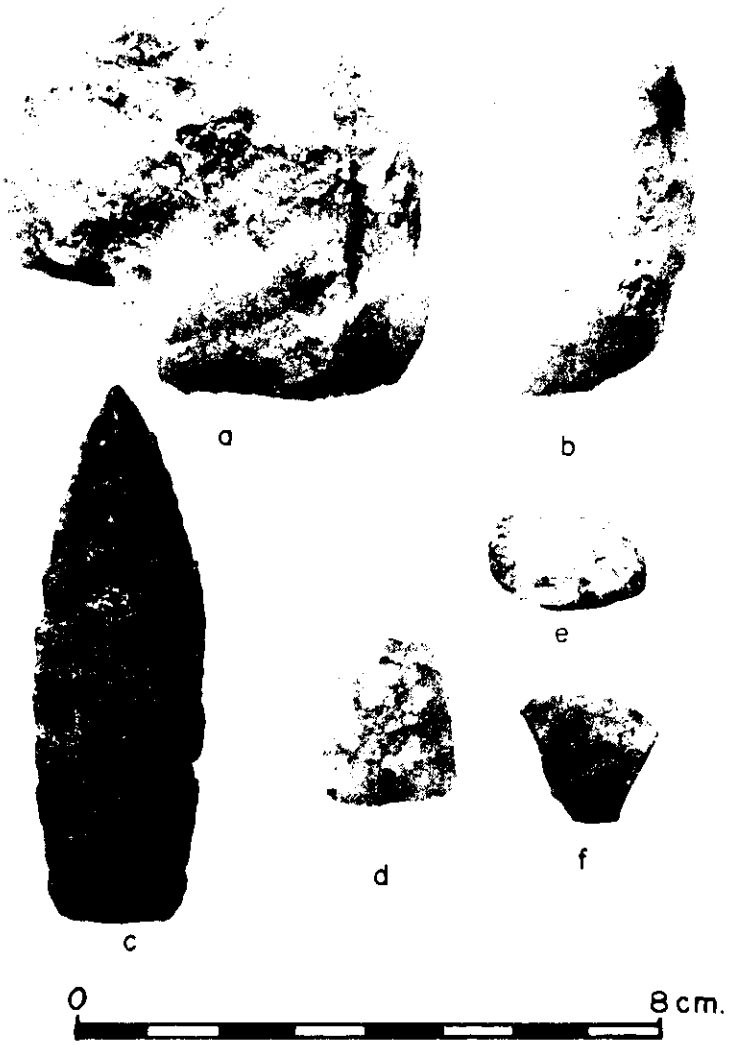
Plate 3. Artifacts from GcNj 3.

a, b. Large bifaces

c. Knife or unidentified lanceolate projectile point.

d. Triangular projectile point.

e, f. Scrapers.


a
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8 cm.

Plate 4. Projectile points from GcNj 7.

a. Small side-notched projectile point.

b. Unidentified projectile point.

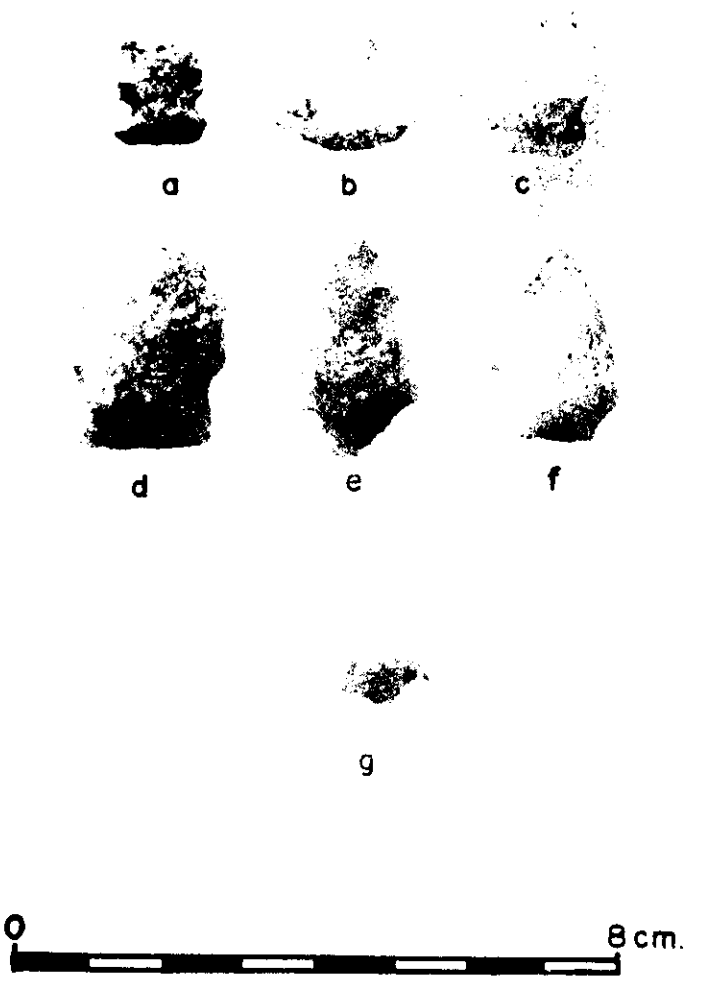
c. Hanna projectile point.

d. Duncan projectile point base fragment.

e. Pelican Lake projectile point.

f. Unidentified projectile point.

g. Unidentified projectile point.


a
b
c
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e
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g
0
8 cm.

Plate 5. Artifacts from GcNj 7.

a. Uniface.

b. Uniface.

c. Pipebowl fragment.

d. Small biface.

e. Small hafted biface.

f. Small biface.

g. Ground slate object.

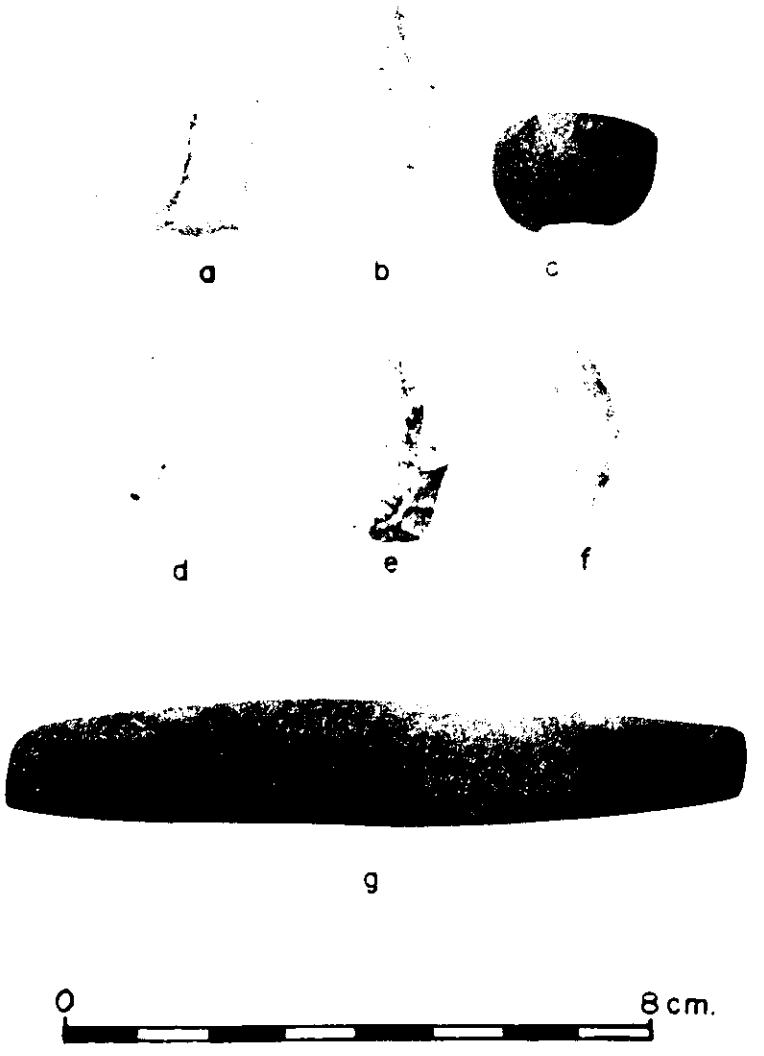

a
b
c
d
e
f
g
0
8 cm.

Plate 6. Projectile points from the Late Prehistoric and Disturbed Components of GcNj 2.

a,b. Small side-notched points, late prehistoric component.

c-f. Small side-notched points, disturbed component.

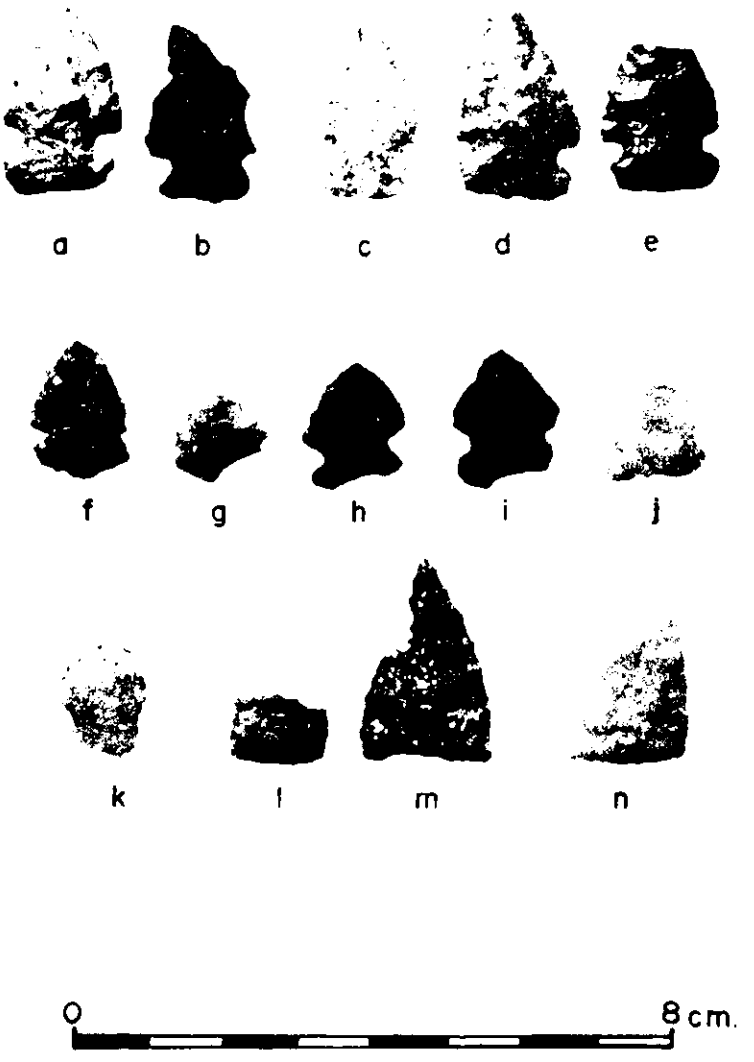
g. Small side-notched point, late prehistoric component.

h-k. Small side-notched points, disturbed component.

l. Triangular projectile point base fragment, late prehistoric component.

m. Triangular projectile point, late prehistoric component.

n. Triangular projectile point base fragment, disturbed component.


a
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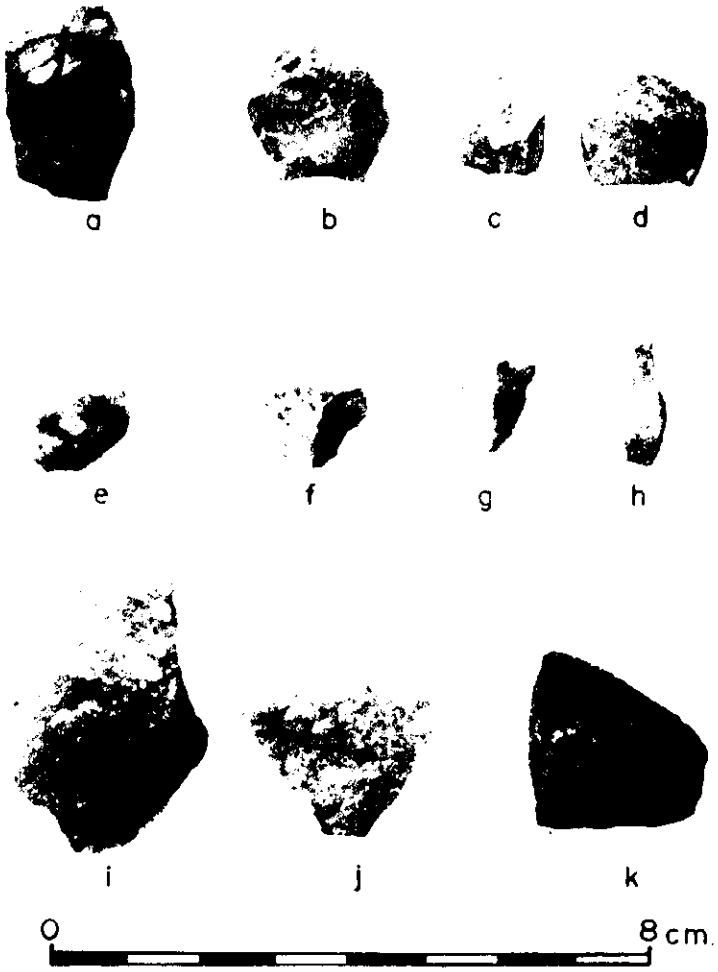
8 cm.

Plate 7. Artifacts from the late Prehistoric Component of GcNj 2.

a - g. Scrapers.

h. Drill fragment.

i-k. Unifaces


a
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c
d
e
f
g
h
i
j
k
0
8 cm.

Plate 8. Large bifaces.

a. From site GcNj 11.

b. From the disturbed component at site GcNj 2.

c. From the late prehistoric component, GcNj 2.

c. From the disturbed component, GcNj 2.

d. From the disturbed component, GcNj 2.

e. From the late prehistoric component, GcNj 2.

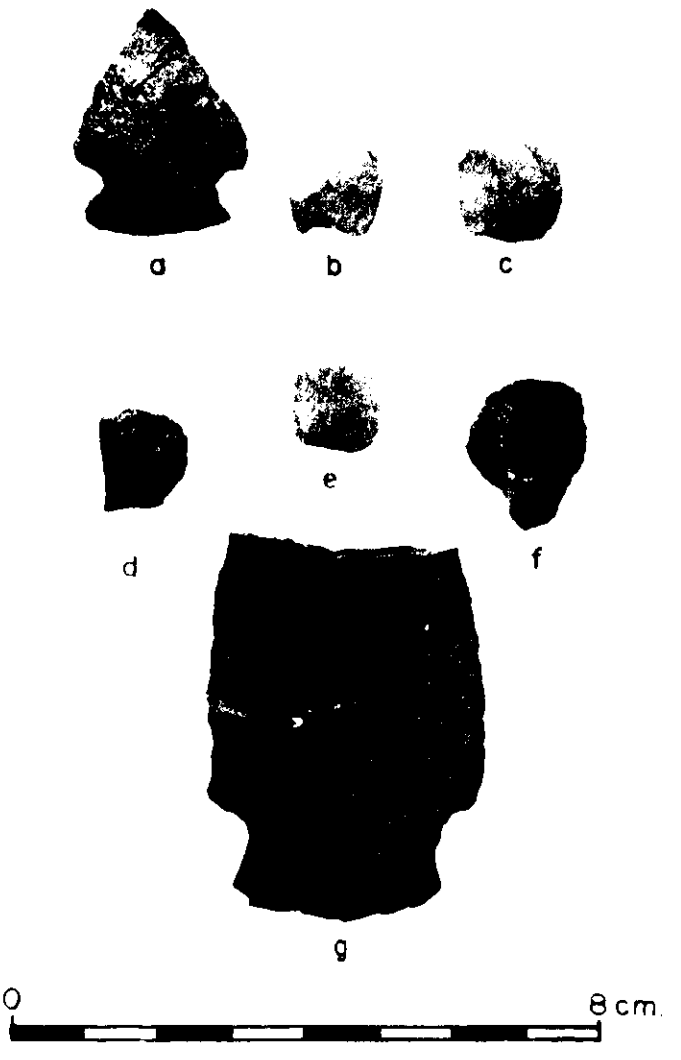

a
b
c
d
e
0
8 cm.

Plate 9. Besant Component Artifacts from GcNj 2.

a. Projectile point from the undisturbed Besant component.

b-f. Scrapers from the undisturbed Besant component.

g. Small hafted biface from the disturbed component.


a
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g
0
8 cm.

Plate 10. Projectile points from GcNj 2.

a. Possible Hanna projectile point from the early component.

b. Possible Hanna projectile point from the early component.

c. Unidentified projectile point from the disturbed component.

d. McKean projectile point from the disturbed component.

e. Oxbow or McKean projectile point from the early component.

f. McKean projectile point from the early component.

g. McKean projectile point from the early component.

h. Oxbow projectile point from the disturbed component.

i. Oxbow projectile point from the early component.


a
b
c
d
e
f
g
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8 cm.

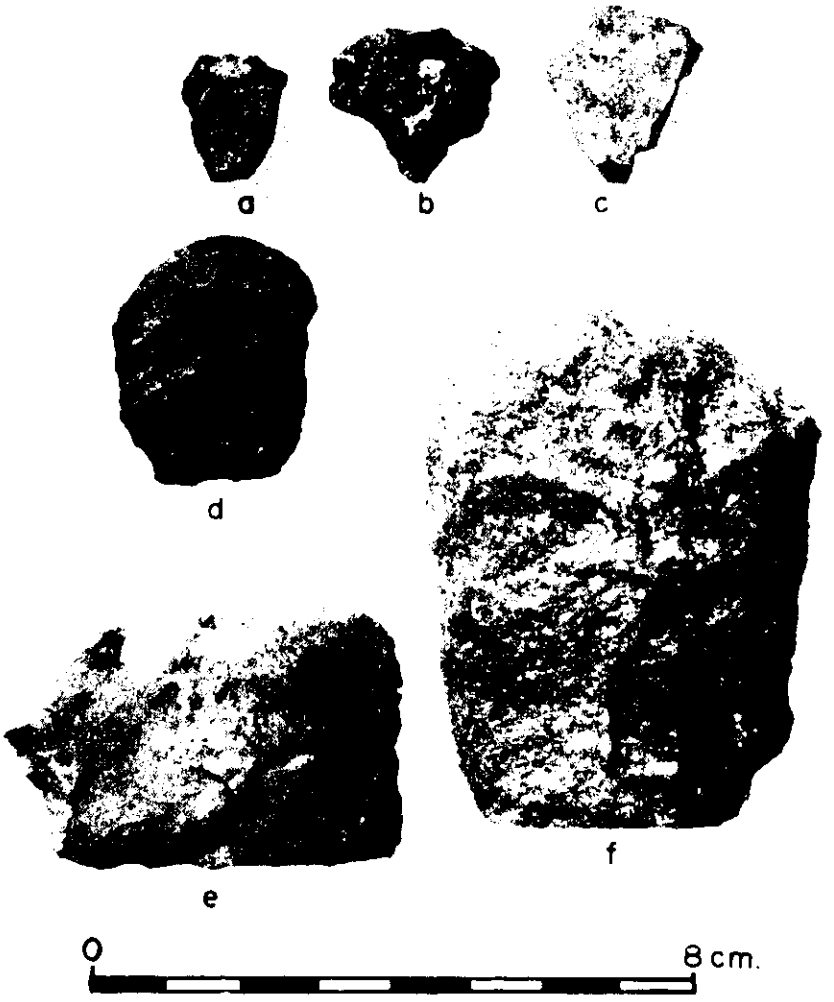


Plate 11. Scrapers from the early component of GcNj 2.

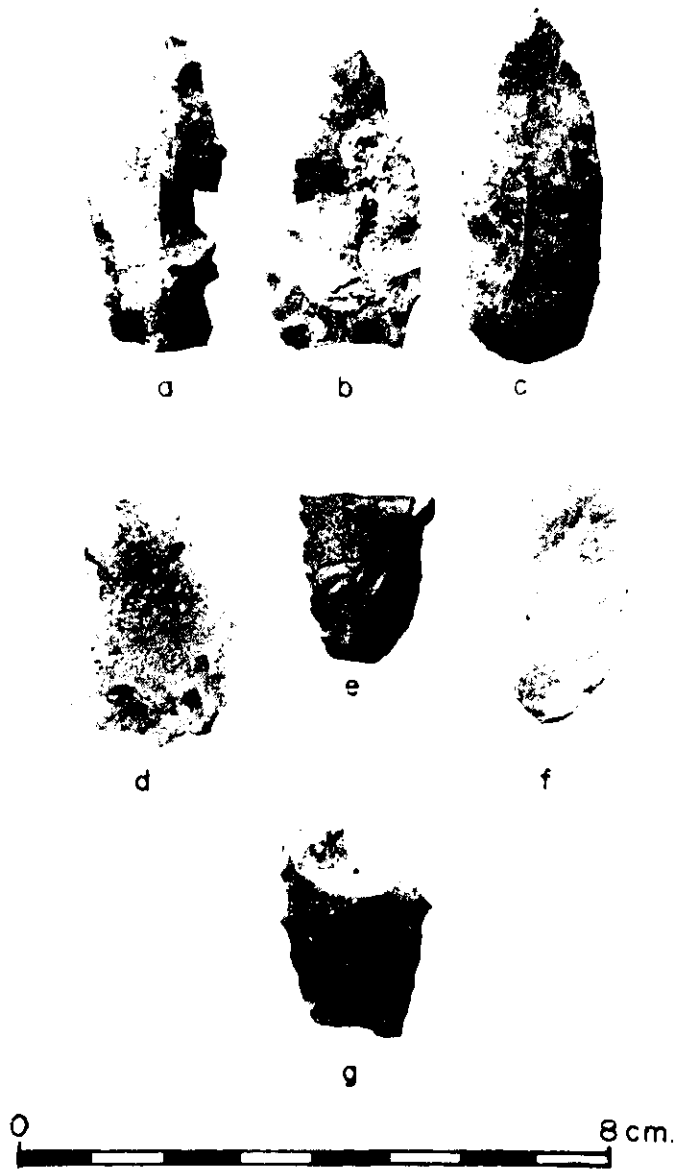


Plate 12. Unifaces from the early component of GcNj 2.

Plate 13. Artifacts from the Early Component of GcNj 2.

a-d. Small bifaces.

e-f. Gravers.

g. Atlatl weight.

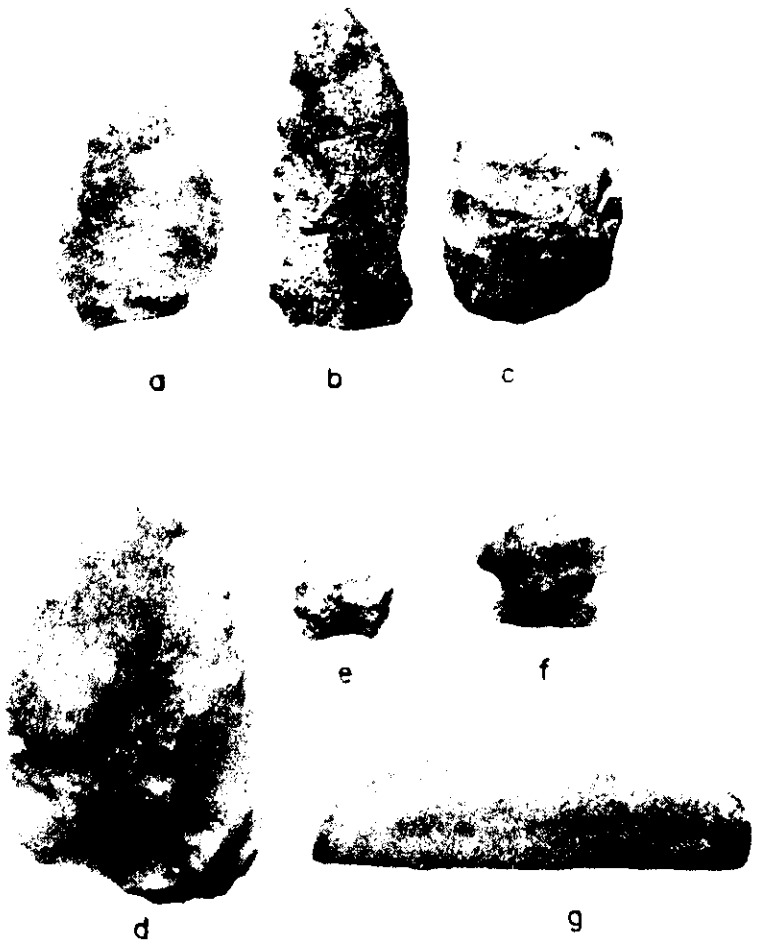

a
b
c
d
e
f
g
0
8 cm

Plate 14. Miscellaneous artifacts from GcNj 2.

a. Unidentified projectile point from the disturbed component.

b. Small biface from the disturbed component.

c. Unidentified projectile point base from the indeterminate component.

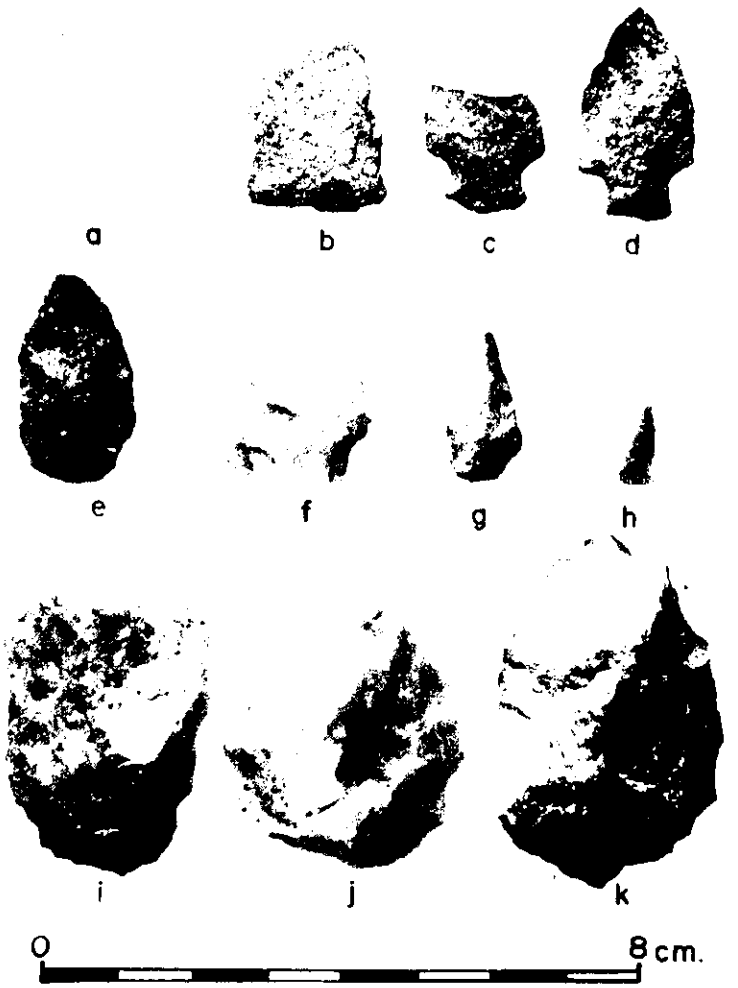
d. Unidentified projectile point from the indeterminate component.

e. Small biface from the disturbed component.

f. Biface edge tool from the disturbed component.

g,h. Drills from the disturbed component.

i-k. Unifaces from the disturbed component.


a
b
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REFERENCES

Atton, F. M.
1969 "Fish, Amphibians and Reptiles".
In Atlas of Saskatchewan, edited by J. H. Richards and K. I. Fung, Modern Press, Saskatoon, Saskatchewan.

Banfield, A.W.F.
1974 The Mammals of Canada.
University of Toronto Press, Toronto.

Binford, L.R.
1972 "Archaeology as Anthropology".
In Contemporary Archaeology, edited by M.P. Leone, Southern Illinois University Press, Carbondale and Edwardsville.

Binford, L.R. and S.R. Binford
1968 "Archaeological Perspectives".
In New Perspectives in Archaeology, edited by S.R. Binford and L.R. Binford, Aldine Co., Chicago.

Binford, L.R. and G.F. Quimby
1963 "Indian Sites and Chipped Stone Materials in the Northern Lake Michigan Area".
In An Archaeological Perspective. Seminar Press, New York, 1972.

Brown, J.A.
1962 Notes and News. American Antiquity.
Vol. 28, No. 1, p. 120. Salt Lake City.

Brumley, L.M.
1971 "The Narrows Site in Waterton Lakes National Park, Alberta". In Aboriginal Man and Environments on the Plateau of Northwest America, edited by A. H. Stryd and R. A. Smith. The Students Press, Calgary.

Bryson, R.A. and W.M. Wendland
1967 "Tentative Climatic Patterns for some Late Glacial and Post Glacial Episodes in Central North America".
In Life, Land and Water, edited by W.J. Mayer - Oakes, University of Manitoba Press.

Buckley, H., E.M. Kew and J.B. Hawley
1963 Indians and Metis of Northern Saskatchewan.
Center for Community Studies, Saskatoon, Saskatchewan.

Cameron, A.W.
1972 Canadian Mammals
National Museum of Canada, Department of Northern Affairs and Natural Resources, Ottawa.

Chakravarti, A.K.
1969 "The Climate of Saskatchewan".
In Atlas of Saskatchewan, edited by J.H. Richards and K. I. Fung, Modern Press, Saskatoon, Saskatchewan.

Clarke, D.L.
1968 Analytical Archaeology.
Methuen and Co. Ltd., London

Conant, R.
1958 A Field Guide to Reptiles and Amphibians.
Houghton Mifflin Co., Boston.

Deetz, J.
1967 Invitation to Archaeology.
American Museum of Natural History,
Natural History Press, Garden City, New York

Downes, P.
1938 "Reindeer Lake Pottery",
In American Antiquity, Vol. 4, p. 48.

Dyck, I.G.
1970 "Two Oxbow Settlement Types in Central Saskatchewan". In Napao. Vol. 2, No. 2, October.
Department of Anthropology and Archaeology,
University of Saskatchewan, Saskatoon.

Elson,
1967 "Geology of Glacial Lake Agassiz".
In Life, Land and Water, edited by W.J. Mayer-Oakes,
University of Manitoba Press.

Fisher, A.D.
1973 "The Cree of Canada: Some Ecological and Evolutionary Considerations".
In Cultural Ecology: Readings on the Canadian Indians and Eskimo, edited by B. Cox, McClelland and Stewart, Toronto.

Flannery, K.V.
1972 "Culture History v. Cultural Process:
A Debate in American Archaeology".
In Contemporary Archaeology, edited by M.P. Leone,
Southern Illinois University Press,
Carbondale and Edwardsville.

Forsman, M.R.A.
1972 "Prince Albert National Park Archaeological Survey: 1971". In Manuscript Report Series, No. 92, National Historic Parks and Sites Branch, Parks Canada, Department of Indian and Northern Affairs, Ottawa, 1972.

1976 "Bipolar Stone Working Technology". In Primitive Art and Technology, edited by J.S. Raymond, B. Loveseth, C. Arnold, G. Reardon, The University of Calgary Archaeological Association, Calgary, Alberta

Godfrey, W.E.
1966 The Birds of Canada, National Museum of Canada, Bulletin 203, Biological Series No. 73, Ottawa

Gollop, J.B.
1969 "Birds in Saskatchewan". In Atlas of Saskatchewan, edited by J.H. Richards and K.I. Fung, Modern Press, Saskatoon, Saskatchewan

Gruhn, R.
1971 "Preliminary Report on the Muhlbach Site: A Besant Bison Trap in Central Alberta". In Contributions to Anthropology VII: Archaeology and Physical Anthropology. National Museum of Man of the National Museums of Canada, Bulletin No. 232, Anthropological Series No. 87, Ottawa

Hlady, W.M.
1970 "Manitoba - The Northern Woodlands". In Ten Thousand Years, edited by W.M. Hlady, D.W. Friesen and Sons Ltd., Alton, Manitoba

Hlady, W.M.
1971 "An Introduction to the Archaeology of the Woodland Area of Northern Manitoba". In Manitoba Archaeological Newsletter, Nos. 2 and 3, Vol. VIII, Manitoba Archaeological Society, Winnipeg

Hosie, R.D.
1969 Native Trees of Canada. Forestry Service, Queen's Printer, Ottawa

Jenness, D.
1972 The Indians of Canada. National Museum of Canada Bulletin 65, Anthropological Series No. 15, Ottawa

Joyes, D.C.
1970 "The Culture Sequence at the Avery Site at Rock Lake". In Ten Thousand Years, edited by W.M. Hlady, D.W. Friesen and Sons Ltd., Altona, Manitoba.

Leone, M.P.
1972 "Issues in Anthropological Archaeology". In Contemporary Archaeology, edited by M.P. Leone, Southern University Press, Carbondale and Edwardsville

MacDonald, G.R.
1968 Debert: A Palaeo-Indian Site in Central Nova Scotia Anthropology Papers, National Museum of Canada, No. 16, Ottawa

MacNeish, R.S.
1958 An Introduction to the Archaeology of Southeast Manitoba. National Museum of Canada, Bulletin No. 157, Ottawa

McPherron, A.
1967 The Juntunen Site and the Late Woodland Prehistory of the Upper Great Lakes Area. Anthropological Papers, Museum of Anthropology, University of Michigan, No. 30.

Maher, W.J.
1969 "Mammals in Saskatchewan". In Atlas of Saskatchewan, edited by J. H. Richards

Martin, P.J.
1972 "The Revolution in Archaeology" In Contemporary Archaeology, edited by M.P. Leone, Southern Illinois University Press, Carbondale and Edwardsville

Mayer-Oakes, W.J.
1970 Archaeological Investigations in the Grand Rapids, Manitoba, Reservoir 1961 - 1962 University of Manitoba Press, Winnipeg.

Meteorological Branch
1962 The Climate of Canada. Air Services, Department of Transport, Toronto Air Services, Department of Transport

Meyer, D.A. and I.G. Dyck
1968 "The Connell Creek Site". In Saskatchewan Archaeology Newsletter. No. 23, pp. 2-9, Regina, Saskatchewan

Minni, S.J.
1975 The Prehistoric Occupations of Black Lake, Northern Saskatchewan. Unpublished M.A. Thesis, Department of Anthropology and A Archaeology, University of Saskatchewan, Saskatoon

Moss, H.C. and J.S. Clayton
1969 "The Soils of Saskatchewan".
In Atlas of Saskatchewan, edited by J.H. Richards and K.I. Fung, Modern Press, Saskatoon, Saskatchewan

Moss, H.C.
1965 A Guide to Understanding Saskatchewan Soils.
University of Saskatchewan, Modern Press, Saskatoon

Mott, R.J.
1969 Palynological Studies in Central Saskatchewan.
Geological Survey of Canada, Department of Energy, Mines and Resources, Paper 69-32, Ottawa

Nero, R.W. and B.A. McCorquodale
1958 "Report on Excavation at the Oxbow Dam Site"
In The Blue Jay, Vol. XVI, No. 2, pp. 82-90, Regina, Saskatchewan

Noble, W.C.
1971 "Archaeological Surveys and Sequences in the Central District of MacKenzie, N.W.T."
In Arctic Anthropology, Vol. VIII, No. 1, University of Wisconsin

Reeves, B.
1970 "Culture Dynamics in the Manitoba Grasslands 1000 B.C. - A.D. 700"
In Ten Thousand Years, edited by W.M. Hlady, D.W. Friesen and Sons Ltd., Altona, Manitoba

Richards, J.H. and K.I. Fung (editors)
1969 Atlas of Saskatchewan.
Modern Press, Saskatoon, Saskatchewan

Ritchie, J.D.
1967 "Holocene Vegetation of the Northern Precincts of the Glacial Lake Agassiz Basin".
In Life, Land and Water, edited by W.J. Mayer-Oakes, University of Manitoba Press

Spaulding, A.D.
1971 "Statistical Techniques for the Discovery of Artifact Types".
In Man's Imprint from the Past, edited by J. Deetz Little, Brown and Company, Boston

Syms, L.
1970 "The McKean Complex in Manitoba".
In Ten Thousand Years, edited by W.M. Hlady,
D.W. Friesen and Sons Ltd., Altona, Manitoba

Taylor, W.W.
1972 "Old Wine in New Skins: A Contemporary
Parable".
In Contemporary Archaeology, edited by M.P. Leone.
Southern Illinois University Press, Carbondale and
Edwardsville

Watson, P.J., S.A. LeBlanc, and C.L. Redman
1971 Explanation in Archaeology.
Columbia University Press, New York

Wettlaufer, B.N.
1955 The Mortlach Site in the Besant Valley of Central
Saskatchewan.
Anthropological Series No. 1. Department of
Natural Resources, Regina, Saskatchewan

Wettlaufer, B.N. and W.J. Mayer-Oakes
1960 The Long Creek Site.
Anthropological Series No. 2, Saskatchewan Museum
of Natural History, Department of Natural Resources,
Regina, Saskatchewan

Willey, G.R. and P. Phillips
1958 Method and Theory in American Archaeology.
University of Chicago, Chicago

Wormington, H.M. and R.G. Forbis
1965 An Introduction to the Archaeology of Alberta, Canada.
Proceedings No. 11, Denver Museum of Natural History,
Denver, Colorado

Wright, J.V.
1968 "The Michipicoten Site, Ontario".
National Museums of Canada, Bulletin 224,
Paper No. 1, Ottawa

1971 "Cree Culture History in the Southern Indian Lake
Region". In Contributions to Anthropology VII:
Archaeology and Physical Anthropology. National
Museum of Man of the National Museums of Canada
Bulletin 232, Anthropological Series No. 87,
Ottawa.

1972 The Aberdeen Site, Keewatin District, N.W.T.
Mercury Series, Archaeological Survey of Canada
National Museums of Canada, Paper No. 2, Ottawa